Modern Packaging



MARCH 1943



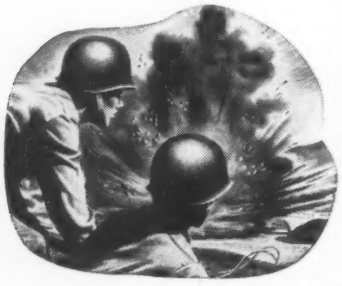
We're honestly proud of this one . . .

WHEN THE FIRST TORPEDO, made by Canco's subsidiary—the Amertorp Corporation—splashed into the water last year, Navy officials acclaimed its excellent performance.

This was the forerunner of great schools of such "tin fish" which have since been delivered by Canco to our fighting forces.

These torpedoes are made entirely by Canco—from war-head to whirling propellers. Even their intricate controls and propulsion mechanisms, as delicate as those of a fine-jewelled watch, are tooled and produced by Canco craftsmen.

Certainly, these incredibly complicated implements of war seemed a far cry from Canco's peacetime metal containers. But, the difficulties of the job were merely a challenge to Canco engineers. Here was a task which appealed to their imagination... taxed their skill. Today, the results they have achieved in making these torpedoes are a credit to their technical ability and ingenuity.



In addition to complete torpedoes—

Canco men and machines are also providing metal containers for parachute flares, emergency water rations, demolition kits . . . and for a host of other vital war needs.

Canco is making hermetically sealed first-aid kits... portable blood bank containers... field-ration containers... literally millions of units.

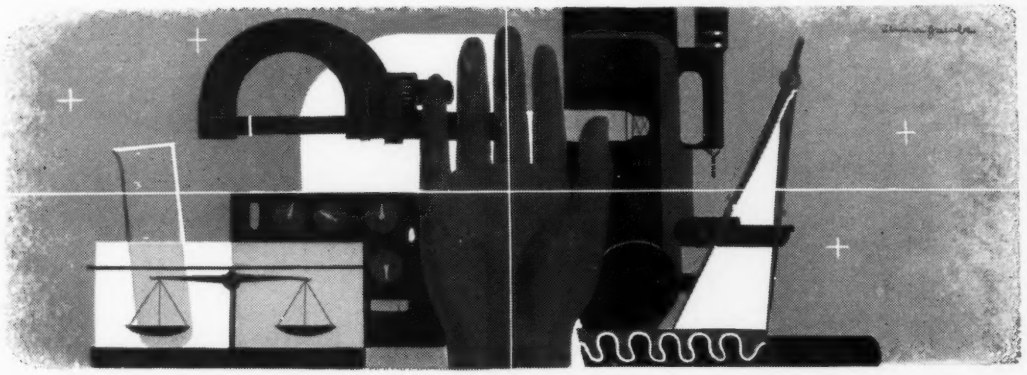


In addition, Canco Machine Shops, once used to build and maintain Canco machinery, are now employing much of their equipment to produce specified tools and essential parts for weapons of war.

These are some of the reasons why metal containers are no longer available for many consumer products. True, we of American Can Company are doing everything possible to develop suitable substitute containers. But with Canco —as with every other patriotic American manufacturer— the fighting forces must come first.

AMERICAN CAN COMPANY
230 PARK AVENUE, NEW YORK, N. Y.
and subsidiaries
The Amertorp Corporation
The Ammunition Container Corporation

Precision is not a tool. It is not a machine, a method, or the experience of a master workman. Yet it is contained in all of these things.



Precision is really an *idea.* It is the earnest desire of a reputable manufacturer to build a product of the finest quality and to constantly seek ways and means of improving it. It is an honest pride in doing something well, and doing it on time. Precision is . . . well, precision is what you get in the Phoenix C T Cap. Standard and uniform; adaptable, dependable, convenient; decorative, yet economical; simple in construction and certain as to results—because it is precision made.

Phoenix Metal Cap Co., 2444 W. Sixteenth St., Chicago; 3720 Fourteenth Ave., Brooklyn.

Modern Packaging

Publisher, **CHARLES A. BRESKIN**
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VOLUME 16 **MARCH 1943** **NUMBER 7**

OUR WAR DRESS

This issue of Modern Packaging isn't as large in over-all size. We've eliminated some of the frills. We've reduced the size of our cuts and are using fewer of them. We're using a lighter weight paper. We're doing this cheerfully and willingly in compliance with Order L-244 because we are eager to do our part toward ridding the world of a scourge. But if you will examine this issue carefully, you will find no reduction—quantitatively or qualitatively—in the information presented. As to readability, the type sizes are identically the same as we have been using and we're working harder than ever to make the articles clear, interesting and useful. Whatever further cuts may come, we'll fall in line. There will be no let-up in our determination to help in the war effort by observing the spirit of all orders and by continuing to cover all developments in the packaging field.

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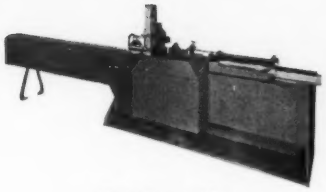
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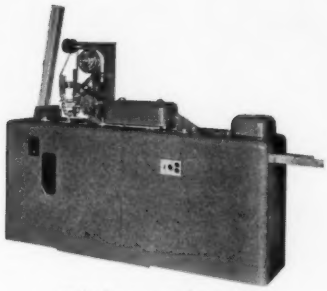
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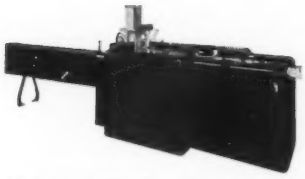
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Cartoning machine for bottled medicinal products



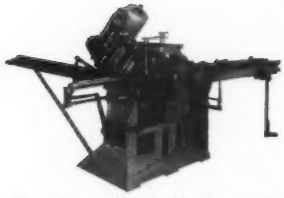
Cellophane wrapping machine



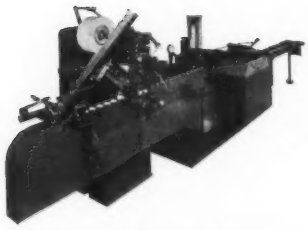
Cartoning machine for packaging chocolate

TODAY...

New Skills to Produce "THE PACKAGING MACHINES OF TOMORROW"



Wrapping machine for blasting powder



Combination wrapping-and-cartoning machine for packaging gauze bandages

American industry has done a real job. In the words of a noted authority, *never* before has a nation's industry converted *so quickly* from the production of peacetime needs to the tools of war.

Here at Redington, for example, we have had to accomplish a change-over from *custom* engineering and machine building to *quantity* production. The same skill—engineering and mechanical—required to build packaging machines one at a time, has now been successfully applied to producing the finest kind of work, *not* one piece at a time, but many pieces in quantity production.

That skill is being constantly called upon to produce parts *difficult to manufacture*. Here is just one instance: a war plant turning out shell checking machines needed hundreds of parts held *to close* tolerances. The normal equipment to produce them was already at capacity; Redington engineers, however, in consultation with the war plant's engineering staff, devised other means for turning out these important parts. Not only were parts accurately made but the *delivery* date was met.

These newly acquired skills will be invaluable in building "*The Packaging Machines of Tomorrow.*"

F. B. REDINGTON CO. (Est. 1897) 110–112 So. Sangamon St., Chicago, Ill.

REDINGTON

PACKAGING MACHINES

FOR CARTONING • WRAPPING • SPECIAL PACKAGING

INSIDE NEWS

MARCH PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

Vegetable-Juice Blends May Become Important Post-War Food Items

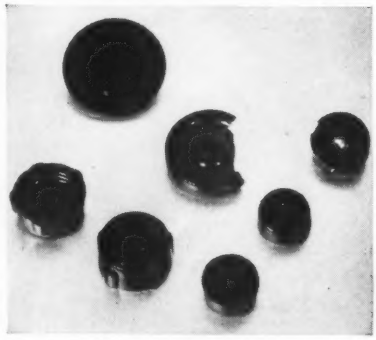
Problem Is To Increase Acidity In Order To Preserve High Vegetable Flavors

More varied packs of vegetable juices may find their way to retail shelves when wartime restrictions on containers are lifted, and blended juices probably will be used to a much greater extent. Experiments recently conducted in New York State show that the blended juices have advantages over unblended juices.

One of the chief difficulties in developing high-quality vegetable juices is that most vegetables are so lacking in acidity that they must be subjected to long periods of processing at high temperatures in order to destroy all bacterial life and thus lose their flavor and other desirable characteristics. If the acidity of the juice can be increased so as to prohibit the growth of certain heat-resistant bacteria, the product can be preserved by flash pasteurization that has proved so successful in preserving the high quality and flavor of fruit juices.

Rather than attempting to increase the acidity of vegetable juices by adding mineral acids, such as hydrochloric or phosphoric acids, or organic acids, such as lactic and citric acids, blending of the vegetable juice with juices of higher acidity, such as rhubarb or sauerkraut juices, is recommended. Of the two, sauerkraut juice has proved the more desirable because it does not mask the flavor of the juice with which it is blended.

Sauerkraut juice has been blended successfully with the juices of carrots, celery, rutabagas, beets, white turnips, onions, and red cabbage. Thus far, the carrot-sauerkraut blend is regarded as having the best flavor and appearance, although some of the sauerkraut-celery blends have also proved very palatable and attractive. In every instance the sauerkraut blends were deemed superior to the pure unacidified vegetable juice. (288)



Wartime closures made of bagasse, a semi-thermosetting type of plastic material

Bagasse Source of Plastic Material

A new molding compound made of bagasse, containing no critical chemicals, has been developed. It is a semi-thermosetting type of material, with a distinct leaning toward an impact technique of molding.

Restriction of essential chemicals used in the manufacture of the first line molding compounds prompted research on a substitute product made without any priority material. After considerable experimentation, a filler was developed from bagasse which, when used in combination with the bagasse resin, was found superior to wood-flour and other familiar types of filler. Finally, all chemicals were eliminated and a molding compound made of the bagasse alone. (292)

Woodpulp Developed as Base for Smokeless Powder

Adaptation of woodpulp for the manufacture of smokeless powder has increased powder production by 25 per cent in American, Canadian and Australian munitions plants. The new process has freed Canada and Australia from dependence on cotton as a base for explosives, it is claimed.

The woodpulp development has been made available to the United Nations governments and all American producers. Developers of the process estimate that it will lower the cost of manufacture of smokeless powder in the United States by $20,000,000 in 1943. (289)

Substitute for Cork

Tests have been carried out in Jamaica with a view to using a locally grown plant as a substitute material for cork, according to recent trade reports. This new product has been developed from the roots of a swamp plant known in Jamaica as "cow apple". The botanical name of this plant, which is found in large quantities in the swampy areas around the island, is Annona palustris. Corks from this root have been made experimentally by one Jamaican firm. It is stated that they are not satisfactory for corking bottles of rum, but could probably be used for vinegar and similar liquid products. (290)

* * * * *

Phosphorescent paint applied to the walls of a darkened blackout room can provide enough glow to guide a person's movements. (291)

New Cleaning Agents

A new group of polyphosphates is compared with the commonly used alkaline detergents. The polyphosphates are excellent water softeners. They differ in their effects on different types of water and the right one must be selected for a particular hard water.

There is the possibility of utilizing the physical action of the organic detergents in cleaning instead of the chemical action of the alkalies. Combinations of alkaline and organic detergents may be fitted to particular jobs. It is said to be possible to soften protein films by the action of enzyme papaine, especially when the latter is supplemented with a wetting agent.

An acid can-washing solution is described which is more effective and more economical than the usual alkali solution. Similarly, suitable wetting agents may be combined with the polyphosphates in bottle-washing to give more brilliant bottles. (293)

NATIONAL CAN

PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

New 5-Minute Test for Rubber

To facilitate the determination of the rubber content of 1,500 to 2,000 different species and varieties of plants in connection with a rubber research program, there has been developed a five-minute, microchemical test for the presence of rubber.

The test consists principally of the use of a dye dissolved in a mixture of solvents. The solvents penetrate the plant tissue and kill and preserve it for microscopical examination, and the dye stains the rubber and resins that are present. Additional treatments remove the stained resins and leave the rubber. Roots, stem and leaves of the plants are sectioned with a razor blade, tested, and the amount of rubber in the most promising plant samples is then determined accurately by quantitative chemical analysis. (294)

Peacetime Equipment for Wartime Service



National Can facilities are available for speedy, efficient service on all types of permissible metal containers. (295)

Resins Improve Method of Softening Water

New resins are replacing old zeolite minerals and greensands for special uses requiring softened water of excellent quality, such as in breweries, canneries and beverage plants. Extended application of the resins to prevent spoilage of medicinal enzyme preparations, to purify drugs and to recover vitally needed metals from industrial wastes have been predicted for the future. (296)

* * * * *

No less than two hundred and eight distinct varieties of wheat are grown on farms in the United States. Of these varieties, 11 occupy more than 1,000,000 acres each. (297)

Technical Topics

YUCCA HARVEST—Two West Coast companies are beginning to harvest Yucca from desert lands of Arizona as an emergency source of fibre. (298)

DRY FLAVORS — Flavoring extracts of most of the popular flavors have now been reduced to powder and tablet form. Army-inspired research to solve shipping breakage of the traditional liquid extract is responsible for the new development. (299)

GRAPE SUGAR FUEL—The motor bus service between Santiago and Valparaiso, Chile, is now running on a fuel mixture made largely from grape sugar residues, formerly almost entirely wasted. (300)

VITAMINIZED SOAP — A process for impregnating toilet soap with vitamin D in such a manner that the vitamin can be absorbed by the skin is said to have been developed by an Ohio firm. (301)

COFFEE CONSERVATION — Development of a process for sealing the flavor in coffee beans before roasting, so that coffee consumption may be reduced twenty-five per cent, has been recently reported. (302)

FOOD EQUIPMENT—Methods for comparing the efficiency of different methods of cleaning and sterilizing food processing equipment have been developed by the New York State Agricultural Experiment Station at Geneva, N. Y. (303)

CITRIC ACID SUBSTITUTE—The citric acid shortage has brought forth a new product which is described as suitable for use in nearly all items for which the acid has been a constituent part. One gallon of the product is said to be equivalent to 14 pounds of powdered citric acid. (304)

COD LIVER OIL OINTMENTS are just as effective as sulfa compounds in the treatment of wounds and burns, according to certain medical men. In some cases, results have been far superior to those obtained with the use of tannic acid. (305)

WHEAT GERM OIL—The addition of wheat germ oil to dried whole milk will prevent the rapid spoilage tendency under wartime shipping conditions, according to research workers. (306)

SYNTHETIC PUMICE — Soap bubbles, after being strengthened with liquid glue, are now mixed with cement. After hardening, this process produces a block similar to pumice stone which floats on water and has the heat-insulating qualities of cork. (307)

NEW TEXTILE FIBRE—The finest filament produced by man or nature is a new synthetic textile fibre with a diameter of one ten-thousandth of an inch. Twenty thousand miles of this fibre weighs only one pound. (308)

CORK SUBSTITUTE — Washington and Oregon can produce 100 tons of bark of the Douglas fir tree, now being used experimentally, to relieve the cork shortage. The bark is ground, treated with water and ammonium hydroxide to give elasticity and then pressed into shape. (309)

PYRETHRUM TOXICITY TESTS—Pyrethrum extract testing to determine the relative toxicity of pyrethrins I and II was discussed in a recent British technical journal. Modifications of the current test methods were described involving the use of a potassium hydroxide solution to saponify the esters. (310)

PENCILLIUM—Puberulic acid has been found to be another metabolic product of the *Pencillium* species of molds which possesses high antibacterial properties. Pencillin had heretofore been shown to be a potent bactericide, even when highly diluted. Puberulic acid has been found to suppress the growth of a large number of Gram-positive bacteria at very high dilutions. (311)

VITAMIN A TEST—Vitamin A potency of oils, liquid foods, and drugs can now be determined mechanically by a new instrument which measures light absorption through a test sample at a wave length of approximately 328 millicrons. Operation of the instrument is based on the current output of a photocell, activated by a beam of light filtered to the characteristic absorption band of Vitamin A. A mercury vapor lamp acts as the light source. (312)

BOTANICAL DRUG CULTIVATION has been actively promoted in Australia during the past year, with the result that plants for the manufacture of hyoscine, hyoscyamine, and opium alkeloids were operated. Other products, the domestic production of which will be possible in coming seasons, are the digitalis glycosides, strychine, ephedrine, emetine, santonin and felix-mas, strophanthin and quabaine, and ergot. (313)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

(Advertisement)



N-30 J-32 A-682 C-39 D-62

ATTENTION!

Yes sir, these STOCK BOTTLES *certainly do have* ATTENTION VALUE

In times like these, it's a wonderful help for you to be able to draw upon Swindell's great assortment of smartly designed stock bottles. The five illustrated are "headliners"--but there are many more to choose from. Write for our catalogue.

Illustrated above:
N-30: ⅛ oz. to 8 oz.
J-32: ½ oz. to 16 oz.
A-682: ⅛ oz. to 4 oz.
C-39: ½ oz. to 16 oz.
D-62: ½ dr. to 8 oz.

SWINDELL BROS.
BALTIMORE, MARYLAND
200 FIFTH AVENUE, NEW YORK
ROBERTO ORTIZ—HAVANA CUBA

When you think of bottles think of

Swindell



Lumarith plastics to the rescue! . . . Here's a lunch box that can go through war-plant inspection without being touched by human hands. And that certainly helps the appetite, *and disposition*, of the men and women on the production front. . . . When versatile Lumarith and the inventive genius of the packaging industry get together, the packaging problems of war meet their masters. This Victory Vu-Kit, which speeds inspection and helps labor relations is designed and produced by V. W. Busch Manufacturing Company. . . .When you meet a packaging problem, turn to Lumarith! Celanese Celluloid Corporation, 180 Madison Avenue, New York City.

LUMARITH
REG. U.S. PAT. OFF.
Plastics

CELANESE CELLULOID CORPORATION
The First Name in Plastics

P. S. This war worker is wearing Celanese work clothes and the Lilly Daché safety helmet of Lumarith

A DIVISION OF CELANESE CORPORATION OF AMERICA



SYLVANIA PRODUCTS

PARTICIPATING IN THE WAR EFFORT

SYLVANIA* CELLOPHANE:

—Packaging of rations, essential foods, surgical dressings, other supplies.
—Protection of ordnance.
—Chemical warfare—various uses.
—Technical uses in electrical equipment.
—Replacement of metal containers.

★

SYLVANIA* CASINGS FOR MEATS:

—Preservation and protection of meats.

★

SYLVANIA* "CEGLIN"*:

—Permanent finish for textiles.

★

SYLVANIA* "SYLPHSEAL"* BANDS:

—Closures for bottles, jars, etc.



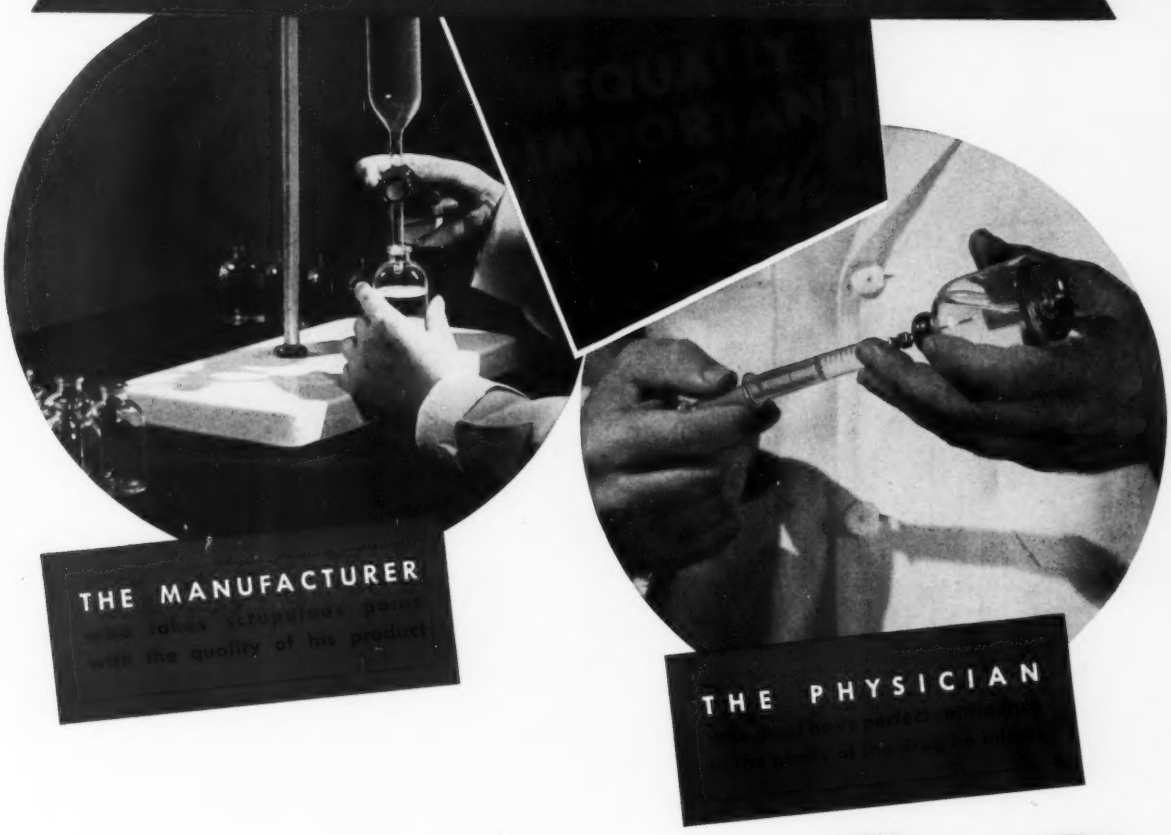
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SYLVANIA INDUSTRIAL CORPORATION

Works and Principal Offices, Fredericksburg, Va.

General Sales Offices, 122 E. 42nd St., New York City

KIMBLE'S NEUTRAGLAS (N-51A GLASS)



KIMBLE NEUTRAGLAS (N-51A) resists chemical attack and solvent action and provides maximum protection for the manufacturer's quality on which the physician relies.

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STANDARDIZE NOW on Kimble Ampuls, Serum Vials, Serum Bottles and pharmaceutical containers made of NEUTRAGLAS— *Clinically Safe.*

• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY



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You can help him. Not necessarily because you're philanthropic, but because it's to your own interests to lend a hand. It's only good business to help your railroad shipments go through undamaged . . . to prevent waste of materials, manpower, machinery, time and shipping facilities.

You can help tremendously merely by using better corrugated shipping boxes . . . boxes that are sturdier, stronger, better engineered to stand up under longer hauls, heavier loads, and handling by inexperienced men.

The few extra pennies in original cost will soon be dwarfed by month after month savings. You can prove that to your own satisfaction by writing the H & D Package Laboratory. Learn what has been done for others, what can be done for you.

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THIS IS *Packaging Insurance*

It's a matter of coverage.

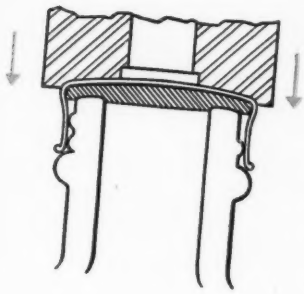
Packaging Insurance, in the form of the Alseco Rolled-On method of sealing, covers you against the risks which attend poorly fitting caps.

Because Alseco R-O Seals give your packages individually tailor-made closures, they assure the maintenance of all the quality you so carefully put into your product.

Besides, R-O's are applied by smooth-running, high-speed Alseco machines that take the grief out of the sealing operation.

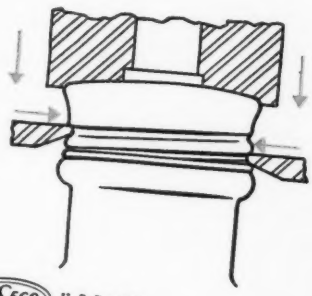
That's what we mean by Packaging Insurance.

HERE'S WHY YOU GET "PACKAGING INSURANCE" BY THE ROLLED-ON METHOD OF SEALING



1. Plain-skirted Alseco Seal is uniformly seated. Under stationary top pressure, container lip is embedded in liner evenly all around.

2. While held in that position, threads are Rolled-On to conform exactly to threads on container. Each seal is tailor-made, fits perfectly.



Trade Mark Reg. ALSECO SEALS U. S. Pat. Off.

Has Conservation Order M-104 Limited Your Packaging Operations?

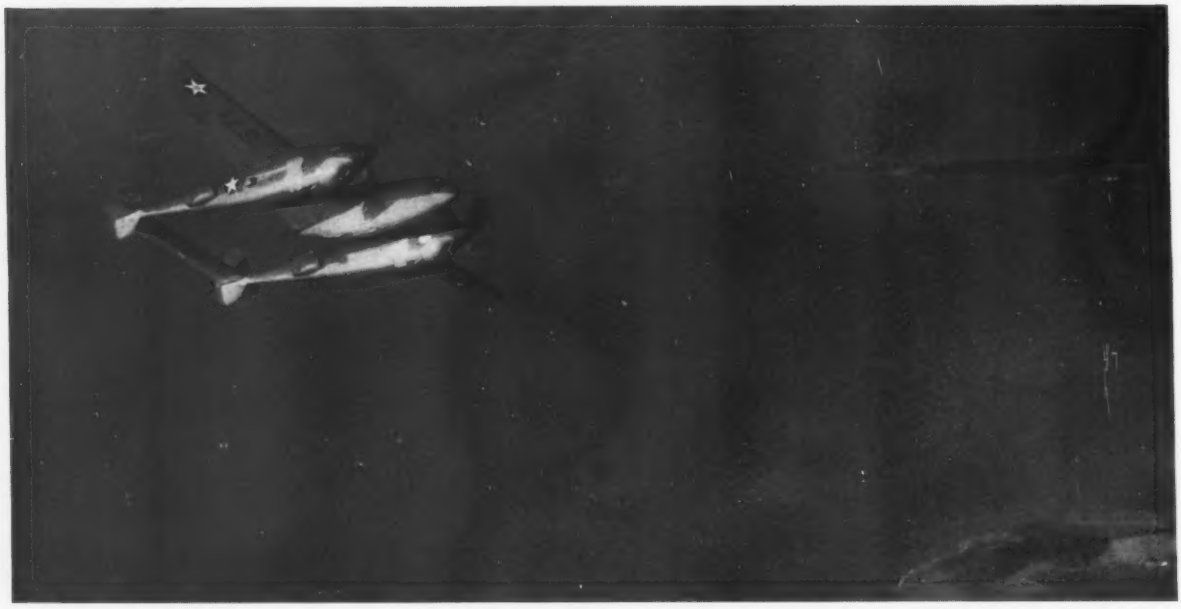
Anticipating these regulations, Alseco has perfected seals and liners to comply with them. These Alseco developments may well be the answer to your problem of sealing your allowable quota. Write for full information.

ALSECO SEALS

TAILOR-MADE

ALUMINUM SEAL COMPANY, 1345 THIRD AVENUE, NEW KENSINGTON, PA... At your service. 29 years of experience building quality seals and sealing machines.

We Suggest: More War Bonds for Axis Destruction—

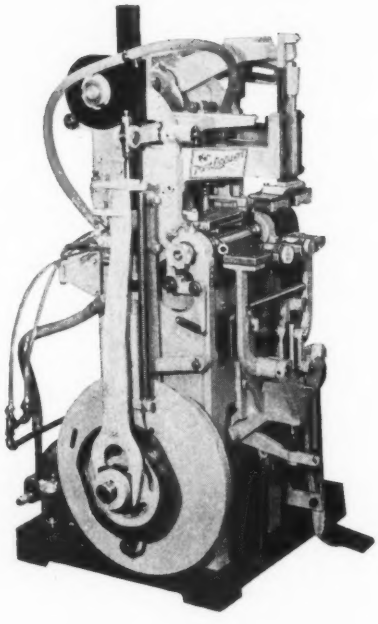


Lockheed Lightnings like the one above, are Bond-Bought Fighters active in the Pacific, Europe and Africa. U. S. A. Official Photo

—and LABELRITES for Maximum Production!

Right now, Labelrites are taking second place in our schedules. Like other machine designers we are specializing in building units which can advantageously utilize New Jersey mechanisms in various War supply items. Cartridge belt loaders, cartridge-sealing equipment, etc.

Where priorities are obtainable, for labeling products destined for Army or Navy use, we have been glad to turn out Labelrites which speed up the production lines, and lower the costs because they release workers for other tasks. Semi-automatic Labelrites for "one-at-a-time" or "two-at-a-time" labeling, or fully automatics that handle 120 a minute, may help **you** too!



Precision registry of labels, low-cost of change parts, and ease in "change-over" from one size to another is mighty important. There's a catalog for you which illustrates many of the intricate labeling jobs that Labelrites **have** done. Why not send for it, and prepare for an improvement in **your** production line?



Illustrated at left is a unit which aligns side-arm cartridges, and feeds them for swift packing in manually held cartons.

NEW JERSEY MACHINE CORPORATION

14th St. and Willow Ave. **HOBOKEN, N. J.**

Chicago Office -- 325 W. Huron Street

MOISTURE
meets its master!

• Moisture...arch-enemy of so many products susceptible to damage by dampness...has no effect on the contents of these kraft paper bags made by Union Bag & Paper Corporation. Their multi-wall construction includes a vapor barrier that is one of the wonders of modern packaging.

Moisture resistance is just an example of the virtues that Union Bag can build into paper packages and containers through Scutan, its special moisture-barrier, water-proofed sheet.

Today, kraft from the South's vast supply of pulpwood is successfully replacing metal, burlap and other scarce materials...meeting specific demands of packaging and shipping in numerous industries...serving, and serving well, in thousands of important tasks.

MULTI-WALL BAG CONSTRUCTION:
Union Bag & Paper Corp. offers highly efficient methods of packaging and shipping agricultural, chemical, fertilizer, food, rock products...affords a decided weight- and space-saving advantage.

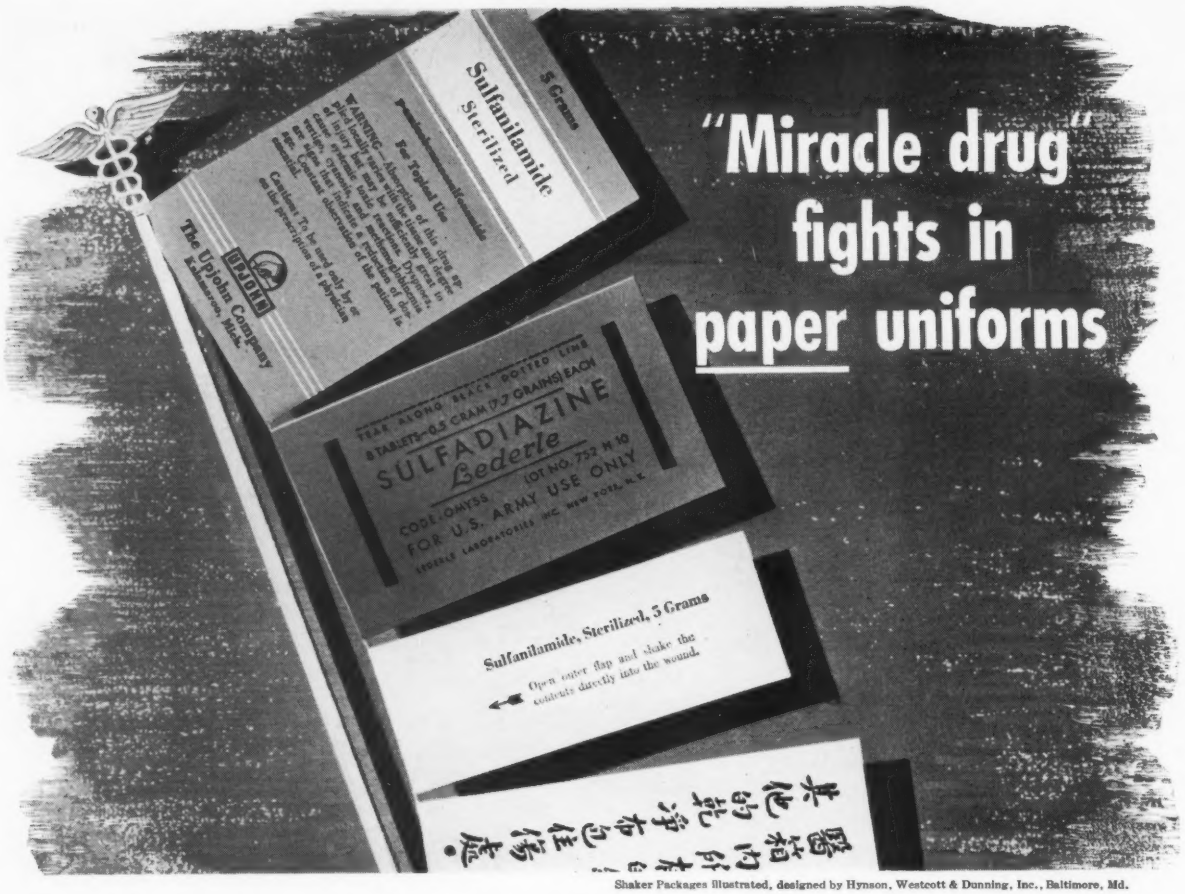
IN THE FIELD OF WAR PACKAGING:
Union Bag & Paper Corp. is able to make bags from its wide variety of kraft papers, including those resistant to oil, grease and water, super-strong, non-scuff, flavor-sealing, fold-enduring, and eye-appealing...is able to make kraft containers that have one, or ALL of these important advantages.

Whatever your wartime container or package problem... no matter how difficult it may seem...consult

UNION BAG & PAPER CORP.
WOOLWORTH BUILDING, NEW YORK, N. Y.



KRAFT PAPER—THE SERVICE UNIFORM OF AMERICAN PRODUCTS



Shaker Packages illustrated, designed by Hynson, Westcott & Dunning, Inc., Baltimore, Md.

• Safe conduct for the sulfa compounds . . . to fighting men all over the world . . . to advanced dressing stations . . . to base hospitals . . . safe conduct, and quick!

Quite an order.

It meant a whole new series of containers designed to meet all climatic conditions. Iceland frost, Borneo heat, downpours, bugs and sandstorms . . . the sulfa compounds had to have containers almost as miraculous as the drugs themselves.

And that's what they got. Paper turned the trick. Paper did the job.

And paper is finding ways to lend a hand in other emergencies, too. In business where vital materials have been curtailed, for example, paper often holds the saving answer, although a priority rating may be necessary to clear the way.

Out of all the innumerable jobs that paper can do, and the many extraordinary requirements it can meet, there must be a few directly applicable to your own business. And if we seem a bit positive about this, it's because we have been making paper for many years—making *a thousand miles of it a day.*

During this time we have gained a fund of information and experience that may prove useful to you right now. And certainly, when materials are again available, it will enable us to supply you with papers for many new and surprising uses.

In the meantime, Oxford merchants and Oxford salesmen are at your service.

OXFORD PAPER COMPANY

230 Park Avenue, New York, N. Y.
Mills at Rumford, Maine & West Carrollton, Ohio
Western Sales Office:
38 E. Wacker Drive, Chicago, Ill.

Can paper products take the place of scarce materials vital to the war effort? All our research facilities are concentrated on finding the answers.

"AS USUAL"



Through the years the makers of Maryland Glass have built their business and their reputation through friendly, personal effort to help customers with their packaging problems . . . and through a sincere, honest endeavor to provide good products and good service. In the glass industry, as in most others, "business as usual" is out for the duration. But the same friendly, personal effort continues "as usual" at Maryland Glass. Even war can't change that!

We'll See You At The
Waldorf-Astoria, March 4
18TH ANNUAL DRUG, CHEMICAL
AND ALLIED TRADES DINNER
Part of Proceeds Go To A War Charity

Maryland

FLINT BOTTLES AND JARS

MARYLAND GLASS CORPORATION, BALTIMORE, MD. . . . New York: 270 Broadway . . . Chicago: Berman Bros., 1501 S. Laflin St. . . . St. Louis: H. A. Baumstark, 4030 Chouteau Ave. . . . Memphis: S. Walter Scott, 435 S. Front St. . . . Kansas City, Mo.: Aller Todd, 1224 Union Ave. . . . Cincinnati: J. E. McLaughlin, 401 Lock Street . . . San Francisco: Owens-Illinois Pacific Coast Company.

The can that makes fresh air



Take a good look at this gas mask. It's the type *you* will have if gas warfare comes.

It's simple—and safe. The secret of its success is that little metal can jutting out like a giant's nose.

When you breathe, the gas is drawn through openings in the can and *turned into pure, fresh air!*

An ingenious chemical filter inside the can (details secret) performs this life-saving trick.

Gas-mask cans, called "canisters," are being made by the millions for our fighters. They're going to war to protect American boys. So are untold numbers of other cans—carrying food, medicines, ammunition, all kinds of war materials.

All these cans must withstand terrific heat, bitter cold. They must protect against insects—keep out rain, salt water, humidity. They must withstand rough handling, long storage. They do. The vital supplies they carry get there—*safe.*

The cans that you miss today will some day be back on your shelves again. And they'll be better cans for the new knowledge and experience we are gaining as packaging headquarters for heroes.

ATTENTION
WAR PURCHASING AGENTS

Metal containers are delivering the goods *safely*—foods, supplies, and bullets arrive ready for action. Continental is making millions of these cans along with other war needs, including plane parts.

Yet, rushed as we are, we can still take on more! Right now, a part of our vast metal-working facilities for forming, stamping, machining and assembly is still available. Write or phone our War Products Council, 100 East 42nd Street, New York.

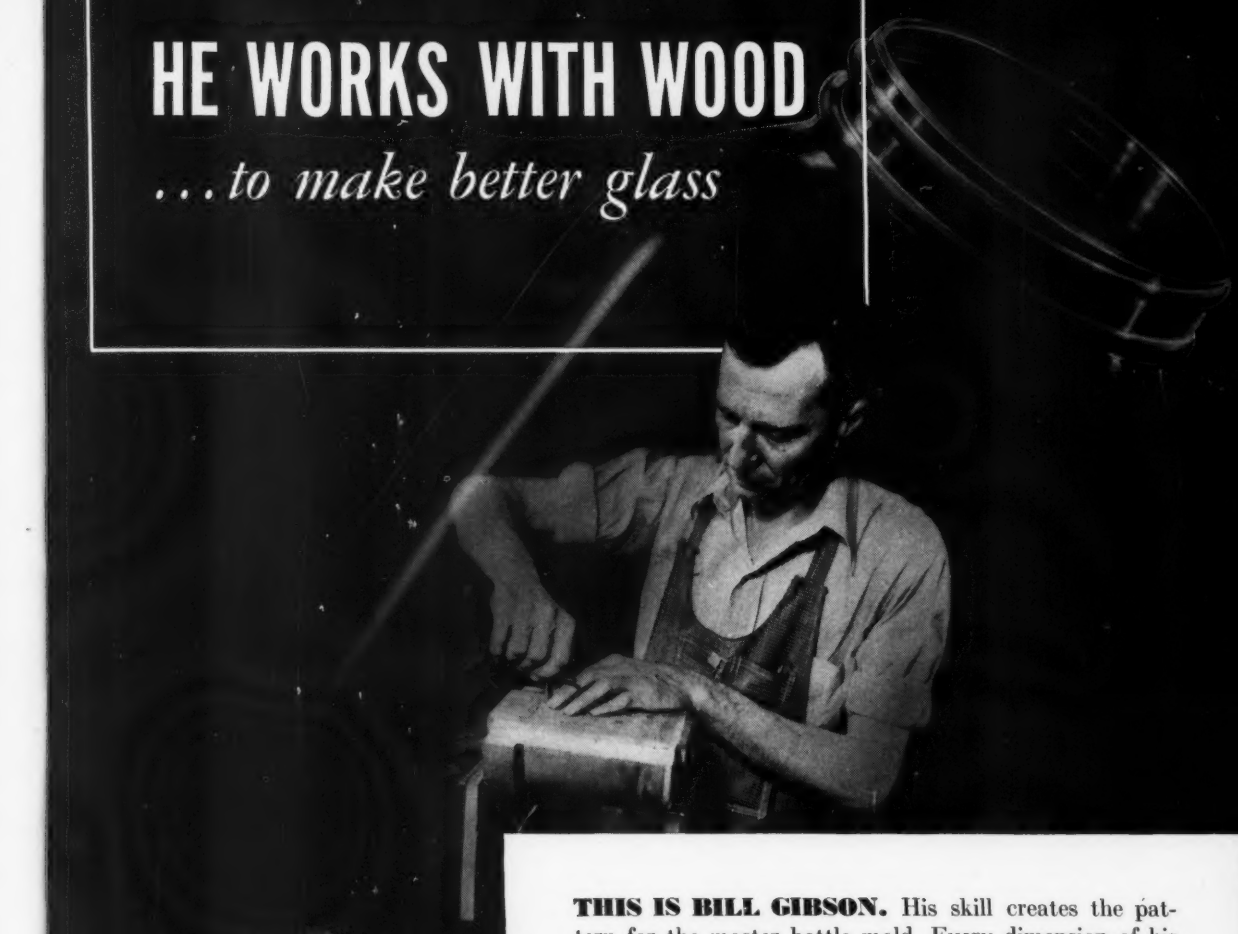
CONTINENTAL CAN COMPANY

It gets there-safe-in cans



HE WORKS WITH WOOD

. . . to make better glass



THIS IS BILL GIBSON. His skill creates the pattern for the master bottle mold. Every dimension of his pattern, every curve and outline, must be exactly right. His is the perfection that machines duplicate.

Bill is rightfully proud of the fact that his skilled hands, and the craftsmanship of the men and women who are his co-workers, make the big difference between ordinary glass and Armstrong's Glass.

The fascinating story of Armstrong's Glass and the men and women who make it is told in the new free booklet, "Men and Glass." Write today for your copy to Armstrong Cork Company, Glass and Closure Division, 5903 Jackson Street, Lancaster, Pa. Glass Plants at Millville, New Jersey and Dunkirk, Indiana.

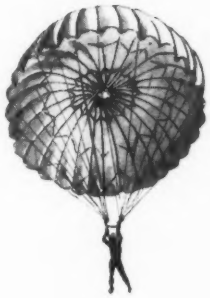
ARMSTRONG'S GLASS



and **ARMSTRONG'S CLOSURES**







He's carrying an Army "Field Kitchen" right in his pocket

IN STURDY, LIGHT-WEIGHT PAPERBOARD CARTONS

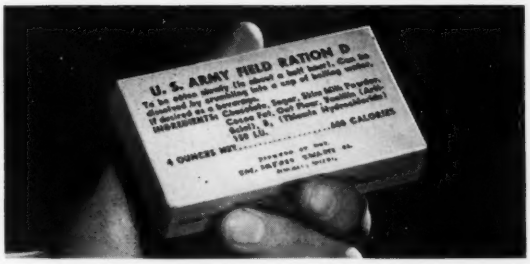
A paratrooper's appetite on a tough assignment is likely to get pretty far ahead of the company field kitchen. He's got to take along with him most of the things he's going to need to sustain himself.

That's where Gardner-Richardson paperboard cartons are doing a mighty important fighting job, today. Inside these compact, space-saving, weight-saving cartons (the size of a candy bar), our soldiers find full course meals. In other cartons in their pack, extra ammunition, medical supplies.

These tough, ingenious folding cartons not only multiply the capacity of packs, but also the cargo space in ships, planes and trucks, rushing food and supplies to our armed forces around the globe.

Paperboard is also stepping in to do the job where other vital materials have gone to war. In one instance, alone, a Gardner-Richardson development has already saved 1,444,000 pounds of metal.

Today, Gardner-Richardson engineers, technicians and workers are bending their shoulders to these wartime jobs . . . their No. 1 jobs until victory.



. . . a full course meal in a carton no larger than a candy bar

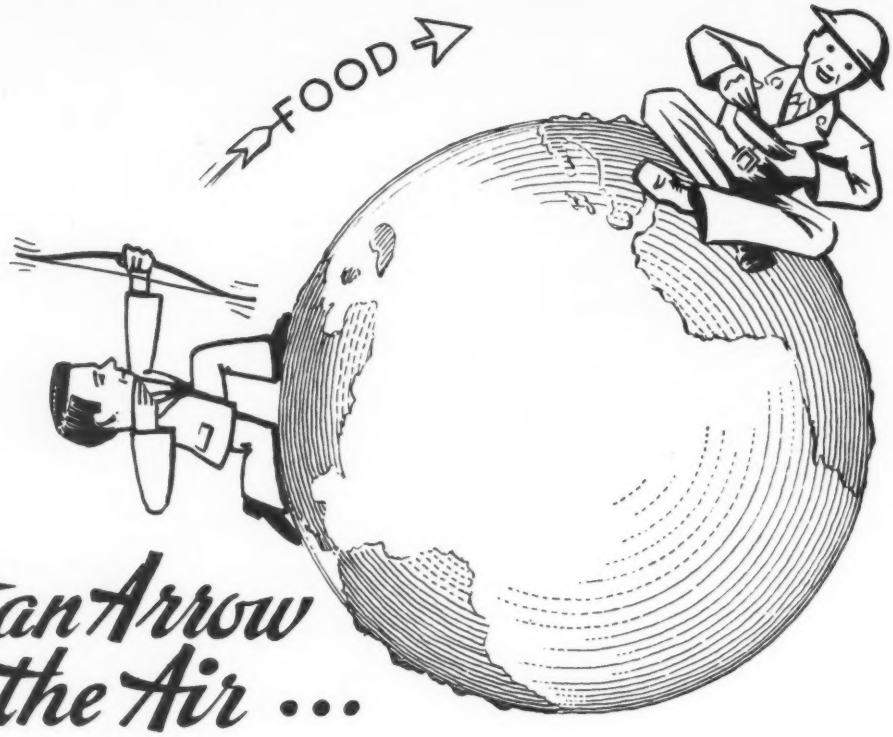
The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

GARDNER-RICHARDSON FROM PULP TO FINISHED PRODUCT ENGINEERED PRECISION

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT



"I Shot an Arrow into the Air ..."

[IT FELL TO EARTH, I KNOW NOT WHERE]"

The protective packaging of food has become unusually complex. It is no longer possible to know where your products will go, how they are going, or even when they will probably be consumed. Without this knowledge, and without many of the packaging materials you have been accustomed to use ... you must nevertheless be sure that your package is so constructed that no form of spoilage can occur.

We believe that Riegel Papers can provide a simple, sure and economical solution to such problems. Our facilities include paper machines, printing, laminating, waxing, lacquer-coating and other special converting processes that enable us to make over 130 different protective packaging papers. You will find these facilities of particular value today when the prevention of food spoilage in any form is an economical "must".

342 MADISON AVENUE • NEW YORK, N. Y.

RIEGEL PAPER CORPORATION



Cooperation on the home front

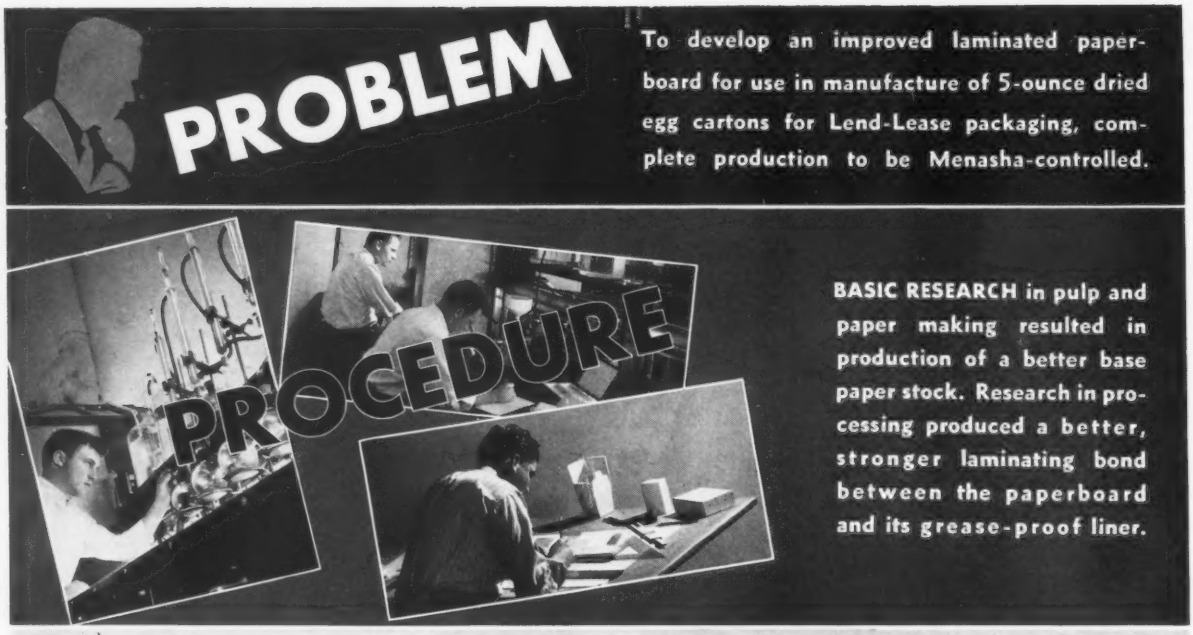
Packers everywhere are enthusiastic over the Government's Victory garden and home preserving campaigns. They know that alone they cannot fill the home front needs and they know that we must remain the strongest, best-fed Nation in the World.

When the peace is won and victory gardens again become flower gardens, when we again return to the pleasant ways of normal living, more millions of American housewives than ever before will know the value and attractiveness of processed foods packed in glass.

When that day comes Hazel-Atlas will be ready to supply new containers designed to sell this greater glass-conscious market. Until that time we shall continue to supply you with as many standardized jars and bottles as efficient mass production methods will permit.

Hazel-Atlas Glass Co.

WHEELING. WEST VIRGINIA


PROBLEM
To develop an improved laminated paperboard for use in manufacture of 5-ounce dried egg cartons for Lend-Lease packaging, complete production to be Menasha-controlled.
PROCEDURE
BASIC RESEARCH in pulp and paper making resulted in production of a better base paper stock. Research in processing produced a better, stronger laminating bond between the paperboard and its grease-proof liner.
SOLUTION
MENASHA'S IMPROVED DRIED EGG CARTON WHICH HAS THESE PROPERTIES: 1. High grease-proofness. 2. Required moisture-vapor proofness. 3. A stronger lamination which holds firm in the high temperatures of wax dipping. 4. A less absorbent paperboard which reduces the "soaking up" of wax when dipped.
PURE DRIED WHOLE EGGS
U.S.A.
THIS PACKAGE CONTAINS 12 EGGS IN POWDER FORM
5 OUNCES NET WEIGHT EQUAL TO 12 EGGS
THE MENASHA PRODUCTS CO.
Division of Marathon Paper Mills Co.
MENASHA
WIS.
That coordinated effort of paper-making technicians and paper treatment technicians is a regular Menasha procedure. It has untied knots, broken bottlenecks in countless war packaging problems. This practical method is applied to a wide range of packaging work: bags, cartons, over-wraps and combinations of these packages . . . packages for food, cereals, powders . . . packages for dehydrated and frozen foods . . . packages for metal parts and munitions. Menasha welcomes a chance to show its versatility in package development, to present you with a package solution which is right!
Send for booklet "Menasha Wartime Packaging"
Menasha PRODUCTS
BAGS
CARTONS
OVER-
WRAPS
Heat-Sealing Bag for Moist or Liquid Content Frozen Foods
Over-wrapped Cigarette Carton for Overseas Shipment
Food Concentrate Carton for Ration K Package
Heat-Sealing Ration K Bag
Ration K Package with Heat-Sealed Over-Wrap
Cartridge Clip
Cartridge Carton
Heat Sealing Bag for Food Concentrates, Drugs, etc.



IF YOU'RE A "CONVERT", TOO...

No doubt you're facing problems of labeling products and packages you never expected to run up against in pre-war days.

And, as you'd expect, we, here at WORLD Labeler Headquarters, have converted to out-and-out war production.

Our knowledge and experience as builders of WORLD's finest labelers will continue to be at your command, *now* as well as in the piping times of peace that lie ahead.

FRANKLY, HERE IS WHAT WE SUGGEST YOU DO

1. ***Keep 'em running.*** That means careful operation and consistent maintenance. Keep your labelers properly adjusted. Don't force them beyond their rated speed. Keep them clean and well lubricated. Impress the operators with the importance of keeping their machines in commission.

2. ***Conserve parts.*** Keep all repair parts under strict control. If they can be repaired (in your own shop or ours), don't throw them away. Have them fixed and put them back on the job or keep them for spares.

3. ***Call upon WORLD headquarters*** for help on all problems of conversion or adaptation to new labeling jobs as well as for all necessary repair or service assistance.

ECONOMIC MACHINERY COMPANY

Builders of World Automatic and Semi-Automatic Labelers for Every Purpose

Worcester, Massachusetts

NEW YORK PHILADELPHIA PITTSBURGH CHICAGO SAN FRANCISCO DENVER LOUISVILLE
SALT LAKE CITY EL PASO SEATTLE PORTLAND LONDON MONTREAL TORONTO WINNIPEG
SPOKANE VANCOUVER SYDNEY, AUSTRALIA WELLINGTON, N. Z. SAN JUAN, P. R.

PROTECTING THE PRODUCT IN WARTIME

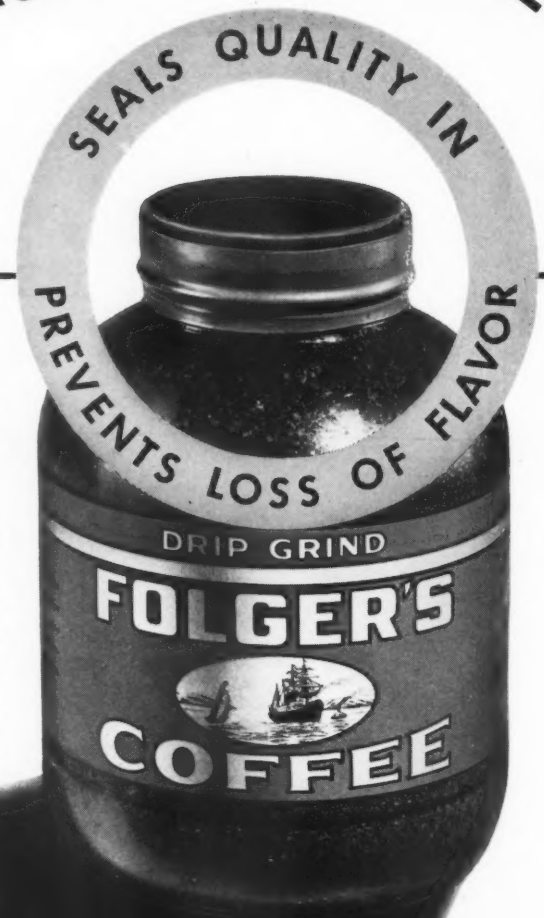
Cardboard Cap held firmly in place with

CEL-O-SEAL

To conserve metal, J. A. Folger & Co. now use a cardboard cap on their vacuum packed coffee jar. "Cel-O-Seal" cellulose bands hold the caps firmly in place. More than that they protect the product and help prevent loss of the fine, full-bodied flavor of this popular brand of coffee.

Today when conservation is so important and many products are rationed, food, beverage and medicinal bottles and jars need the protection of "Cel-O-Seal" bands. They firmly secure the closure . . . help keep the product fresh and safe from evaporation or harmful influences. They also guard against tampering, sampling or substitution.

Like a second label, the bright red "Cel-O-Seal" band on Folger's Coffee jar adds an attractive touch of color. It has real sales appeal.



DU PONT

REG. U.S. PAT. OFF.

CEL-O-SEAL TRADE MARK **BANDS**

"Cel-O-Seal" Bands are sold by

E. I. DU PONT DE NEMOURS & CO. (INC.)
"CEL-O-SEAL" SECTION
Empire State Bldg., N. Y. C.

ARMSTRONG CORK COMPANY
GLASS & CLOSURE DIVISION
Lancaster, Pennsylvania

I. F. SCHNIER COMPANY
683 Bryant Street, San Francisco, California

YOU WILL FEEL RIGHT AT HOME



Interestingly enough, it's usually a lot easier to do things right than it is to do them wrong . . . once you've learned how.

Yet, whether in an individual or an organization, unless there is a deeply-rooted Pride in Performance, there ordinarily is no urge to determine whether further improvement is possible.

Down through the years Carr-Lowrey has ever sought to develop the art of glass making to the highest practical point. Constant checking and rechecking of methods and workmanship, painstaking attention to the most minute details, and insistence upon absolute accuracy at all times . . . these are the things with which we are continuously concerned.

So, if a thoroughly dependable glass container for a drug, cosmetic, household or food product is your need—and if your appreciation of fine craftsmanship makes you fussy about quality—we invite your consideration . . . for in doing business with us we are fully confident that *you will feel right at home!*

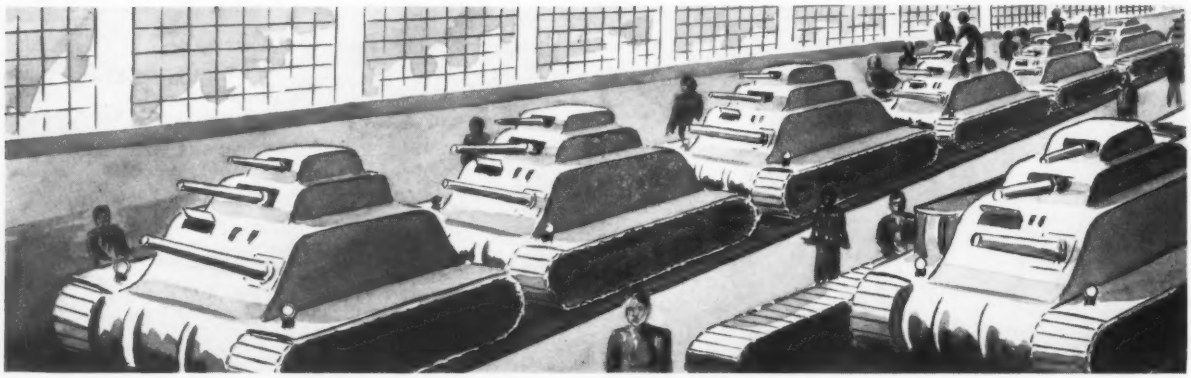
CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. *New York Office:* 500 FIFTH AVENUE *Chicago Office:* 1502 MERCHANDISE MART

Preventing A STAND-STILL WITH A *Box*

The battle of production must keep pace with the fighting over there. Bits and Pieces must frequently cross the continent to reach busy hands on the assembly line. Nothing can be allowed to block this even flow of war materials for Victory.

With only a few hours to go before delivery deadline, the manufacturer of a vital part found his shipping instructions missing. No packing cases had been ordered.



A frantic call on Old Dominion resulted in the designing and production of needed containers within 24 hours. Air transport did the rest. A Box Prevented a Stand-Still.



All America is at work in support of its fighting men at home and abroad. Old Dominion is proud of its share in this effort--the maintenance of peacetime standards in packaging through the use of non-critical materials. If you have a war time packaging problem, call on Old Dominion.

If YOU Have A PACKAGING PROBLEM *Call On*

OLD DOMINION BOX COMPANY

CHARLOTTE, N. C.

PLANTS IN SEVEN SOUTHERN CITIES

Folding Cartons-Set-Up Boxes-Spiral Wound and Corrugated Containers

PACKAGING THAT SAVES CRITICAL MATERIALS FOR THE NATION

NO COFFEE SHORTAGE HERE



. . . and this is why

Heat-sealed packets, made of Aluminum Foil, safeguard soluble coffee in "K" Ration, supplied to armed forces. In all climates, the coffee is kept from caking, losing strength or aroma.

Today this is the only package we know of that is being made of Aluminum Foil.

In days to come there will be scores like it, heat-sealed Aluminum Foil bags and envelopes for all sorts of hygroscopic products. Dehydrated foods, for instance. Completely airtight, moistureproof, vaporproof, verminproof and lightproof, this type of package permits no loss of freshness, flavor, aroma or color.

The "K" Ration coffee packet consists of Aluminum Foil laminated with acetate film on one side, to give extra strength, and coated on the other with a thermoplastic adhesive. Two ribbons are fed into a machine which fills, heat-seals, and trims off the packets.

Imagineering About Packages? Here's More to Think About:

First, get this picture of the postwar aluminum: There will be more of it than ever before. In 1939 aluminum ingot sold for 20 cents a pound, but there have been four price reductions since. So throw away your prewar quotations. There will be new ones.

Foil is only one form to think about. There will be better aluminum collapsible tubes . . . treated, if need be, to withstand acids and alkalis.

There will be aluminum closures for glass containers, offering advantages not found in other closures.

There will be aluminum barrels and drums, the returnable type . . . light, durable, economical . . . for bulk shipment of liquids.

And there will be new-born aluminum packages that are yet to take shape in the minds of Imagineers . . . packaging people who let imagination soar, then engineer their notions into practical form. Perhaps we can help you make yours practical. For aid in Imagineering, write ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh, Pennsylvania.

Think of **ALCOA ALUMINUM**

when you think of tomorrow's packages

A frank statement by the makers of **TEXCEL** **CELLOPHANE TAPE**

INDUSTRIAL TAPE CORPORATION

NEW BRUNSWICK, N. J. CHICAGO, ILL. LOS ANGELES, CAL.

To Our Many Friends In The Trade Who Have Been Unable To Obtain Adequate Supplies of Texcel.

For the past several months the cellophane tape industry has been faced with two developments:

First: A tremendously increased volume of war business (currently absorbing most of our capacity).

Second: A growing scarcity of those materials from which good cellophane tape can be made for non-war orders.

Under these conditions, the Texcel available for non-war uses is but a mere trickle of our normal capacity -- so small, in fact, that it has been necessary for us to discontinue the production of the 10¢, 15¢, 25¢ and 792 inch sizes, and we can supply but a fraction of the non-war requirements of industrial sizes.

The Texcel that would normally flow into your hands is "going to war" — and we know that is the way you want it to be. We hope you will bear with us in this situation.

Very truly yours,

Industrial Tape Corporation

LEB:EB

What about Post-War Markets?



The Going will be Tough for those who fail to Plan Ahead

POST-WAR selling will be no cinch!

Spending may be freer without war time restrictions. But new materials, new products—and perhaps new price levels—will bring keener competition.

Thoughtful business men are planning *now* to meet these post-war conditions. They know they will need more aggressive selling. More vigorous merchandising. And *better packaging*.

Ritchie, too, has been planning ahead. In the more than two years we have been busy on war work, we have also been busy developing new machines, new methods, new ways to use them to give you *better* packages at *lower* cost.

These developments are available to you ***now*** through Ritchie packaging engineers and designers. Their services are offered without cost, without obligation and without thought of gaining immediate business.

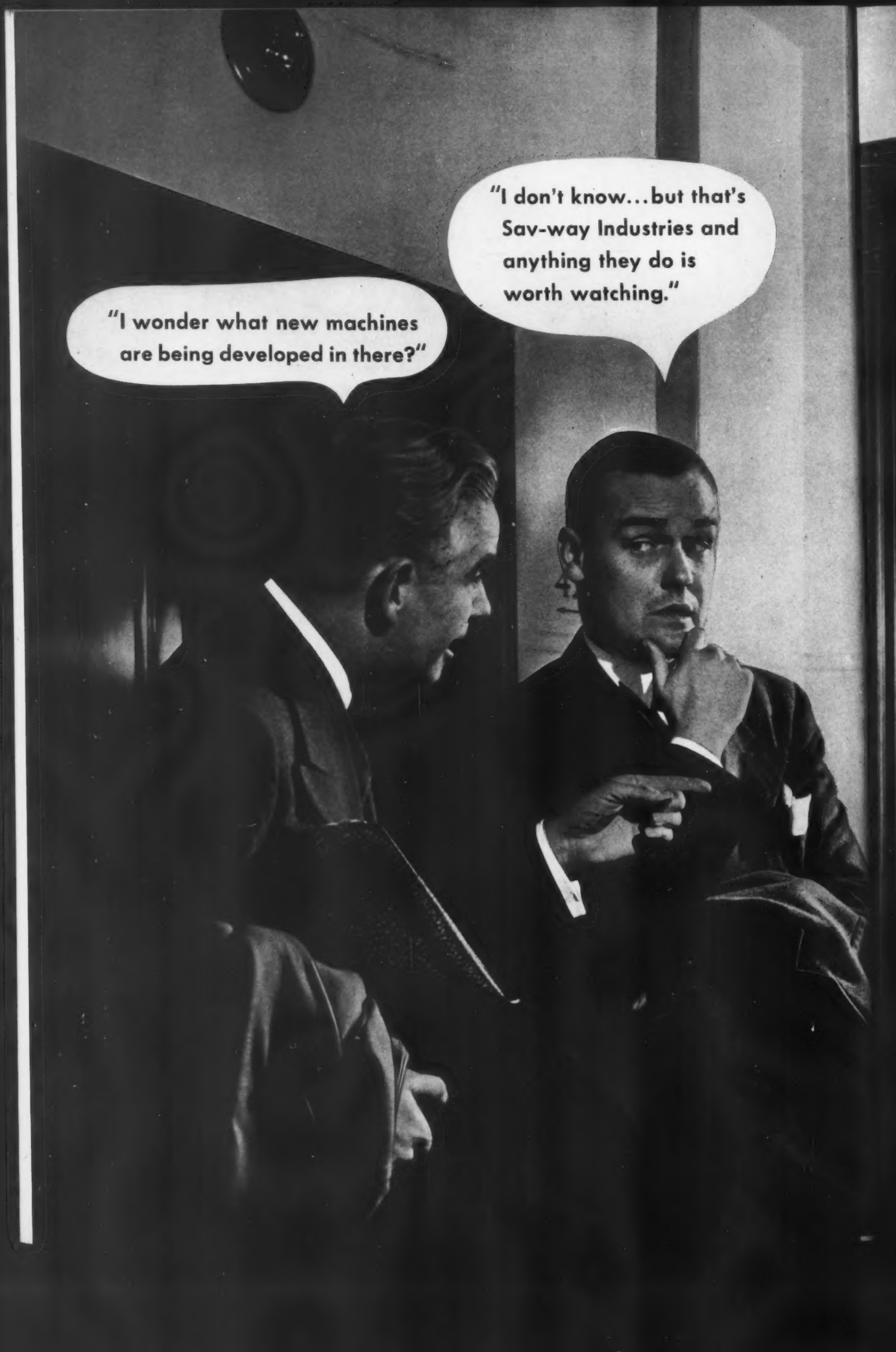
Start planning for tomorrow's needs—today —with Ritchie.

W. C. Ritchie AND COMPANY

SET-UP PAPER BOXES
FIBRE CANS
TRANSPARENT PACKAGES

8842 BALTIMORE AVENUE • CHICAGO

NEW YORK DETROIT LOS ANGELES ST. LOUIS MINNEAPOLIS DENVER MIAMI


"I don't know...but that's Sav-way Industries and anything they do is worth watching."
"I wonder what new machines are being developed in there?"


DEVELOPMENT LABORATORIES
420
420
Keep an Eye On
Saw-way INDUSTRIES
4875 EAST EIGHT MILE
DETROIT, MICHIGAN
Representatives throughout U. S. A. and Canada

ipi Keeping in Touch ipi

PREPARED BY INTERNATIONAL PRINTING INK DIVISION OF INTERCHEMICAL CORPORATION • MARCH, 1943

NEW PACKAGING MATERIALS

Replacement Needs Offer Opportunities in New Fields

War Challenge Brings New Materials, Opens New Markets

The urgent demand for replacement materials is stimulating the development of new products, not only to replace conventional needs but to meet entirely new markets. Most conspicuous is the revolution taking place in the field of packaging. Changes in types of packaging are shifting whole markets into new channels. A large section of the packaging business is moving from the metal decorator to the paper box and container manufacturer.

Paper Meets the Challenge

These new paper packages require new types of materials to make them moisture-proof, grease-proof, resistant to moisture vapor transmission; and they demand ingenious designing to attain satisfactory rigidity and strength. In addition, they must be capable of use on existing machinery and equipment not only for fabrication but in filling.

The ink maker always has been in touch with packaging problems and requirements. IPI has devoted a large part of its research program to the development of moisture-resistant and grease-proof laminants and adhesives.

Each packaging problem must be solved for its particular purpose. No ready-made materials will meet every need. If you have a packaging problem we suggest that you get in touch with IPI and investigate some of the new laminants and adhesives which have been developed from available materials.

Everyday Inks Still Perform

Printers have told us that IPI Everyday inks still do much more than they expect. In thousands of pressrooms, especially on automatic presses, they have demonstrated their performance. Moderate in price, Everyday inks are made today under the same controls as before.

For further information on these new products, write to International Printing Ink, 75 Varick St., New York, N. Y.



For the expanding dehydrated foods industry, IPI has developed laminants and adhesives which give packages moisture-proofness, moisture vapor resistance and grease-proofness. Above, dehydrated equivalents in front of natural vegetables show why they take up 90% less space in transportation.

Transportation and Manpower Problems

The War Manpower Commission program may further affect ink manufacturers. At IPI women have replaced men in service as laboratory assistants, color matchers and labelers.

Printers are cooperating on transportation which has become one of the most serious problems in the ink manufacturing industry. It will probably become much worse before it becomes better. Our factories must bring in raw materials in sufficient quantities to maintain production and at the same time keep inventories within the regulations. Shipments now take 2 to 3 times longer. Deliveries to printers are affected by regulations limiting the number of trips.

Most printers are cooperating with the ink manufacturer by ordering as large a supply as possible at one time within the W.P.B.'s inventory regulation. This greatly helps to ease our delivery problem.

NEW ORDER ASSURES COLOR

Inks Available for All Normal Needs

Printers should have no difficulty in meeting normal requirements for color printing in the immediate future. Under the new dyestuff and organic pigment order issued the 21st of January, supplies of all colors and all types of inks will be satisfactory.

There will be plenty of reds, oranges, yellows, greens, blues, purples, browns and blacks to produce the color printing needed to keep the wheels of trade turning and to bolster civilian morale. If you want a technical explanation we can give it to you, but the safer procedure is to consult your ink maker. No IPI customer has suffered unduly as yet.

Gold Bronze

A recent amendment leaves any manufacturer free to sell any gold bronze on hand and our customers are free to use it.

Inks for Aniline Printing

Tannic acid may not be made from nutgalls for other than medicinal purposes. Shellac is now scarce and high in price. IPI Anilox inks are formulated without these ingredients and are superior to conventional inks.

Excellent Halftone Blacks

New formulation not using restricted resins is IPI's new Holdfast-extra. It is superior in non-scratch characteristics, produces fine printing results. Printers are reporting remarkable successes with IPI Holdfast-extra.

News Inks

Supplies are easy. Materials required in the manufacture of news inks are ample and supplies should meet all normal requirements. White pigments are also plentiful.

Advertisement



Put a stop watch on this operation

Unless up to fifty packages pass a given point on your production line every minute, chances are you could speed up packing with the Deltaseal system.

Efficient Bemis Deltaseal machines shape and seal Deltaseal Bags automatically and at speeds to coordinate with other plant operations.

And Deltaseal paper bags with their easily formed pouring spout and attractive brand printing are real salesmen for the products they carry.









BEMIS BRO. BAG CO.

Headquarters for the

DELTASEAL System of PACKAGING

Minneapolis, Minnesota

OFFICES: Baltimore • Boston • Brooklyn
Buffalo • Charlotte • Chicago • Denver
Detroit • E. Pepperell • Houston
Indianapolis • Kansas City • Los Angeles
Louisville • Memphis • New Orleans • New
York City • Norfolk • Oklahoma City
Omaha • Peoria • St. Louis • Salina • Salt
Lake City • San Francisco • Seattle • Wichita



ACHIEVEMENT THROUGH DESIGN

In outlining the three skills upon which NASHUA'S business is founded — *Creators, Chemists and Craftsmen* — the name "Creators" designates a staff of specially trained artists. Their thinking is not departmentalized; it is a broader function encompassing the whole organization. Many ideas which represent milestones in the progress of modern packaging originated at NASHUA.

Through *Design,* paper has been given an economic value that has helped it serve better the progressive needs of a nation. As the future brings new problems and new opportunities, NASHUA will have much that is new in design to stimulate post-war merchandising.

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MODERN PACKAGING

MARCH 1943 VOLUME 16 NUMBER 7



Mass production in packaging is impossible without standards—bottles could not pass through automatic fillers, cappers or labelers without standardization of supplies and equipment.

Do standards stifle individualism?

*by Dr. John Gaillard**

A few years ago, a packaging machinery manufacturer scheduled to give a talk at a meeting, stepped up to the platform with a boxful of bottle caps. By way of introduction, he held some of the caps up to his audience and explained that he had brought them as an exhibit of horrors. Designed by artists commissioned to create individual and attractive glass containers and closures, the caps had spherical, conical, parabolical, ogival and other shapes. But all of them had one feature in common: they did not give a bottle-capping machine a fair chance to grip them. On the contrary, they appeared to be intended to slip from any holding device. Yet a simple change in shape, such as a set of tiny flats on the sides, would have made the cap fit for machine-handling. And these flats, while meant for a purely functional purpose, might have formed an attractive ornament as well.

The speaker's convincing and amusing demonstration was symbolic for some special problems raised by the dual character of the packaging industry. Functionally, a package must be designed on the basis of technical considerations. To hold, protect and sometimes dispense the product for which a package is intended, it must meet requirements of size, strength, rigidity, tightness, resistance to atmospheric influences and so on. Also, being itself a product meant for mass distribution, a package must be suitable for being manufactured and for being assembled with the merchandise it has to carry, by a machine process. In this respect, a package is no different from any other industrial product with a purely utilitarian purpose. The problems involved must be solved by engineering methods.

The other major performance expected of most packages—at least those intended for the ultimate consumer—is just the opposite of functional. The package must get the attention of the prosepctive customer to increase his incentive to buy

* Mechanical and Consulting Engineer, American Standards Assn. In a subsequent article, Dr. Gaillard will present some pointers on "How to Write Standards."



Social standards are strict. In shaking hands, you do not think of the original demonstration that the hand carries no weapon as a sign that intentions are friendly.

the product contained in it and advertise the latter and its manufacturer. To meet these conditions, the appearance of the package must stand out—it must be "different." The assignment thus given the artist is in complete contrast with the technical man's job of constructing and handling the package. The artist feels that the more individualistic his design, the better the package will work as a "stop and look" signal for the passerby and as a hallmark for the product. Therefore, he will be inclined to hold out for the greatest measure of freedom in design and to rebel against anything that may cramp his creative efforts.

Of course, he will have to mind the cost of production of the package. The advertising manager may ask him to change a design which the artist believes to be harmonious to a more conspicuous one. Or, conversely, he may have to tune down a vivid design because the sales manager believes it would jolt the conservative taste of the customers in the market for which the package is intended. Then, there are technical limitations in the artist's own field—in printing, in color work, in the use of materials. The artist, while bent on being individualistic, is far from enjoying complete freedom of action. Having plenty of troubles of his own, he may easily disregard restrictions imposed on the package for "engineering" reasons. In fact, he may reason that it is only fair if the technical men solve this part of the job, the more so as the artist believes that in this mechanical age, a machine can be made to do almost everything. If it is smart enough to fold, fill and wrap a package, why should a machine be so fussy about $^1/_8$-inch difference on a dimension of a package or the shape of a bottle cap or label?

Do people like standards?

These opposite viewpoints of the artist and the technical man, the striving for freedom of expression on the one side and the tendency to systematize on the other are typical or the controversy that arises in human nature in regard to standardization, that major factor in all mass production jobs. Whenever standardization is discussed somebody is almost sure to say that standards are at best a necessary evil in our modern civilization—that they kill individuality, take the color out of life and reduce our existence to drudgery. This feeling may be partly due to the memories of some sad aspects of the early phases of the machine age—say, a hundred years ago—when the "industrial revolution" brought forth lots of ugly things badly adapted to mass production, often ridiculous imitations of beautiful products of the handicraft period. However, it is hardly conceivable that anybody will claim nowadays that automobiles or packages, made by modern machine methods, lack individuality and sparkle.

The human controversy about the merits of standardization is far more deep-seated than the memory of the gloomy beginnings of the machine age. The human impulse to oppose standardization goes way back to the dawn of civilization. When men began to form a primitive society, it became necessary to establish rules by which each individual had to abide for the sake of the existence and security of the clan. Such rules were the duty of keeping the fire burning, providing food by hunting and fishing, and standing watch against human enemies and wild animals. Whether these rules took the form of mere customs or traditions, manners, fashions, or in the stricter sense, of laws adopted by a more developed type of government, they became recognized standards of human behavior to be observed by each individual as a member of his society. Craftsmen developed standards for their products and methods of manufacturing them, which in the course of time became the pride of the trades. Witness the strict codifications of styles and practices of the guilds in the Middle Ages. Socially and industrially, the world became shot through with "standards." Some of these are very strict. Some are scarcely recognizable as standards: abidance by them has become a long-time habit. In shaking hands, we no more think of the original demonstration that the hand carries no weapon, as a sign that our intentions are friendly.

Standards aim at harmony

If we realize how little most people appear to like the idea of standardization, we are suprised to see how willingly they abide by the large majority of the standards that affect their lives—even though the standards are not compulsory and often not really to the liking of those following them. A very simple case is that of a man who has to go to a dinner and believes he has to dress for it. Does he *have* to wear his "tails" or "tux?" No—he knows that he will not be refused admittance if he comes in his business suit. Yet, he feels that he'd better "dress." Why? To be uniform? No—but he does not want to be an exception. Simple as this example may be, it reveals a most significant motive in a human being for his abidance by a standard—he is willing to sacrifice some personal freedom in order to have the feeling that he is in harmony with his group. Projecting this motive on the large scale of general human relationships, we see that the essential value of standards lies in their service of creating harmonious relations between individuals and human activities. The uniformity established by standards is not their ultimate purpose, but only a means of fitting the performances of men and things properly together so that collectively they will give the desired result. This coordination demands the establishment of uniformity even in the most individualistic human activities.

Standards in music and art

To illustrate this, let us look for a moment at music and the fine arts as a field of human endeavor where standardization, if it were to kill individuality, should not be tolerated. No music or art lover, and less so the musician or artist, has any

love for regimentation. Yet, an orchestra cannot perform in an acceptable manner—not to speak of a beautiful rendition—unless all instruments are tuned to the same pitch. Need for general unification has led here to the establishment of a national American Standard based on a frequency of 440 vibrations per second for middle A on the piano. This specification sounds as rigid as an engineering requirement, yet leaves the orchestra complete freedom to perform any style of music—from the classics to the moderns and from a chorale to jazz Again, in every given piece of music, another standard enters the picture—rhythm. This standard also is exacting in that it requires careful observance lest the proper coordination between the players—their ensemble—be lost. Yet, rhythm is more flexible than pitch, as it may change from measure to measure by personal direction of the conductor. Here, we note the distinction between a truly fundamental standard (pitch) which, once established, remains valid for a very long time and another type of standard (rhythm) which, although important and equally indispensable, changes frequently with time.

The artist engaged in package designs may be still more interested in an example of standardization taken from the Impressionist School in painting which flourished in France in the 1880's. This movement was a major explosion of individualism and a complete overthrow of many hallowed traditions and theories in art. Yet, one outstanding representative of the French group, Georges Seurat, adopted a thoroughly standardized technique of painting—"pointillism." He applied the paint to the canvas in small specks, the color and place of each speck being carefully pre-planned. Working steadfastly, systematically, even at night, Seurat used a limited number of colors on which he had standardized—a "simplified" palette represented by a series of cups from which he drew his specks. Some contemporary critics damned his system as a sign that art was declining into "scientific impersonality." Others hailed his technique as the transfer of art from fumbling to exactness. Anyone who believes that Seurat's work was dull or lacked individuality, should see his famous canvas, "Un Dimanche à la Grande Jatte"—a scene of charming vitality and unusual luminosity. Another Impressionist of the same period, a man usually working with frantic exuberance, Vincent Van Gogh, tried pointillism for a while.

In a letter, Seurat explained that his aim was "to extricate from the manifold and confusing aspects of nature, a harmonious and uniform organization." As an artistic self-assignment, this sounds very much like the counterpart of the task assigned to the man who has to bring order and system in the conflicting specifications used by various departments of an industrial organization—the standards engineer.

Standardization a constructive function

The most important resistance to the full benefit of standardization is caused by human nature. As soon as standardization is conceived as a positive, constructive, creative force in human work—and hence, in industrial management—instead of as a negative, restrictive, leveling-down influence with which we have to put up against our will, astonishing results are achieved in streamlining the operations of individual manufacturing concerns and, in fact, of entire branches of industry. This statement is not based on mere theory, but on the experience gained during some 25 years by the national standardizing bodies established in more than a score of industrial countries.

By its very nature, standardization is an integrating function. Coordination and, hence, the need of standards begins with the cooperation between two or more individuals. Teamwork adds up into departmental activity and the performance of different departments of a company into the operation of the concern as a whole. The individual firm, again, is the elementary unit of a branch of industry, the next stage is, therefore, standardization as a function of the trade—often recognized as a distinct activity and systemized under the auspices of a trade association.

In the packaging field, we have the examples of the Packaging Machinery Mfrs. Institute and Glass Container Assn. Different trades often have common interests so that unified standards would benefit all of them. Thus, the builders of packaging machinery and the machine tool builders have an equal interest in standards for screw threads and for the performance ratings of motors, etc. In such cases, a national standard acceptable to all parties is the best solution with a view to economy in production, ready availability of the components or units concerned, and the use of tools and machinery required in applying the standard, such as the taps and dies for threading machine parts to the specifications of the American Standard for Screw Threads.

National and International Uniformity

This need for unification of standards becomes most pressing in an emergency. If a shell fuze made by one company is to be assembled to a shell made by another firm, the threads on the two parts must be identical to a very high degree of accuracy. In the beginning of the first World War, conditions in industry were chaotic in this respect. To remedy this, five engineering societies founded a national body to function as the coordinating agency for industrial standardization work, now known as the American Standards Assn.—or briefly, the ASA. Its membership has grown to include some eighty national organizations. In addition to technical societies, such as the American Society of Mechanical Engineers, the American Institute of Electrical Engineers and the American Society for Testing Materials, its membership comprises such trade associations as the National Machine Tool Builders Assn., the National Electrical Mfrs. Assn. and the American Iron and Steel Institute, as well as a number of Federal agencies, such as the Departments of War, Navy and Commerce. Similar national standardizing bodies have been created since the first World War in all industrial countries. Also, the need for inter- (*Continued on page 110*)

No musician has any love for regimentation, yet no orchestra could perform in an acceptable manner without established standards of pitch and rhythm.



Pressure-sensitive tape on the battlefront

Figuratively you hear a lot about red tape these days. What you don't hear about are the millions of feet of real tape—red, green, blue and yellow tape, plastic tape, fabric tape and paper tape—that are helping to keep the war program on the move.

Pressure-sensitive tape has become one of the most versatile of packaging materials in war industry and the uses literally run into hundreds of applications. They play a part in the packaging of thousands of items that go overseas, whether food, clothing, military equipment or ammunition. Manufacturers of these tapes have done a great deal towards eliminating bottlenecks in many stages of war production by supplying tape for a constantly increasing number of applications, sometimes as a substitute for other scarce packing materials, sometimes ingenious new uses.

Kinds of tape available

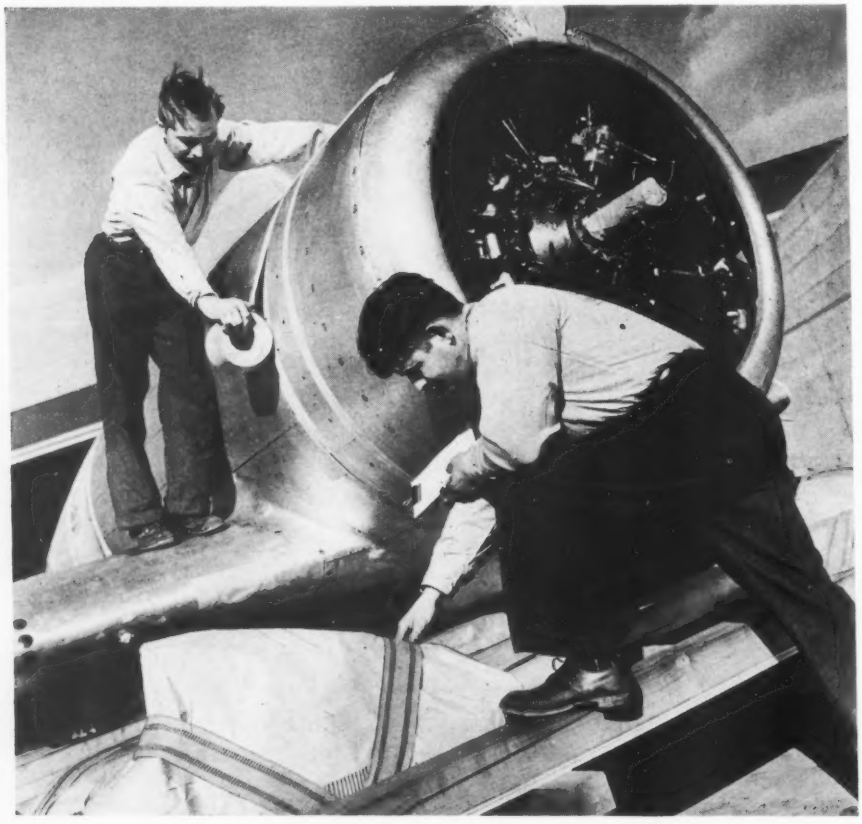
The average American is aware of about three kinds of tapes: (1) black insulation tape for electrical purposes; (2) medical court plaster or what is commonly known as adhesive tape and (3) decorative transparent or colored cellulose tape for repairing torn pages or for sealing gift packages.

Actually there are many more kinds of pressure-sensitive tapes. They may be made of paper of various thicknesses and finishes. They may be plastic tapes of cellulose acetate or cellophane with either transparent or colored backing adhesives. Sometimes they are made with printed paper sandwiched between transparent cellulose film and the adhesive coating, or with fibre reinforced adhesive to increase tensile strength. Modern tapes are also made of cotton, felt, rayon, fibreglass, asbestos, zinc, lead or other metallic foils, each designed to meet a specific requirement. There are also double-faced tapes with adhesives applied to both surfaces; multicolored tapes and combination printed and colored tapes for identification purposes. Tapes are made in standard colors, but special colors or combinations of colors may be had on order. Some tapes can be re-used and thus effect considerable saving.

Each tape has its particular advantage. For example, black cellulose acetate or cloth tape might be used to seal the loading containers of photographic film because the daylight must be obstructed. In this case transparency would be of no use at all. When visibility is a requisite, such as for the covering of factory pass cards, cellulose transparent tape would be selected and the opaque tapes would be useless. For sealing and identifying, colored cellulose or cloth tape would be selected.

Advantage of pressure-sensitive tape

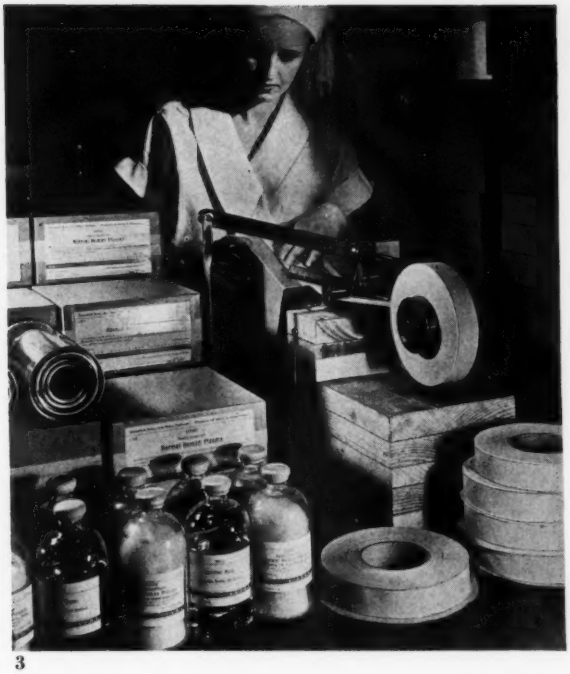
Most obvious advantage of pressure-sensitive tape is the fact that only pressure—not moisture or the application of additional adhesive—is necessary to create a tenacious bond



1. *Fabric tape not only seals up the cowling and machine gun vents of planes, but protects many exposed parts. It goes on quickly and strips off cleanly, leaving little evidence of where it was used.*



2



3

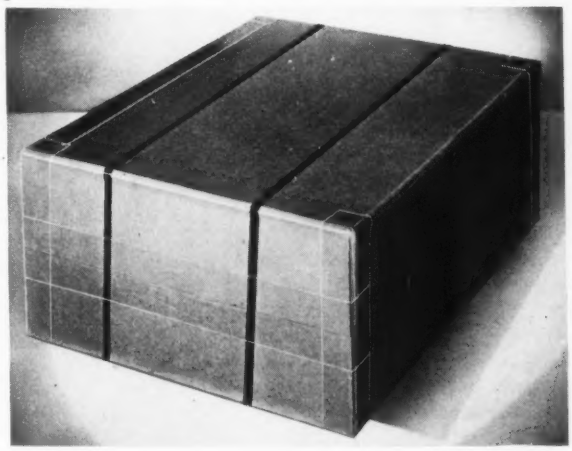
that will strip off with little or no residue on solid surfaces. There are tapes that are waterproof, airproof, greaseproof, non-shrinkable, unaffected by sea air, salt spray, chemical fumes or war gases; tapes that reinforce, laminate, insulate, identify and seal, mask, mend, decorate, splice and join. Many varieties withstand impact; some are pressureproof.

Sealing applications

Perhaps the most universal application for pressure-sensitive tapes is for sealing. Hundreds of items that are being shipped for armies on the move are sealed with such materials. Take an airplane, for example. The all-important motor is carefully wrapped in a bag of transparent rubber derivative film along with a dehydrating agent to absorb moisture which might cause corrosion. Seams of the bag are then sealed with cellulose acetate pressure-sensitive tape to eliminate the possibility of sea air or any dampness from entering this package. Propellers are dismounted and carefully wrapped to prevent corrosion and sealed with weatherproof tape. The cowling, machine gun vents, seams—in fact, all exposed parts of a plane are sealed for shipment with cloth and cellulose acetate tapes. Nor does the use of tape end once the plane is delivered. Various tapes are used to protect rubber gaskets on frostshields against moisture condensation, to guard gun muzzles and wing ejection slots against take-off dust, mud and moisture. They also prevent ice from forming in gun barrels as the planes fly at higher altitudes. Cellulose

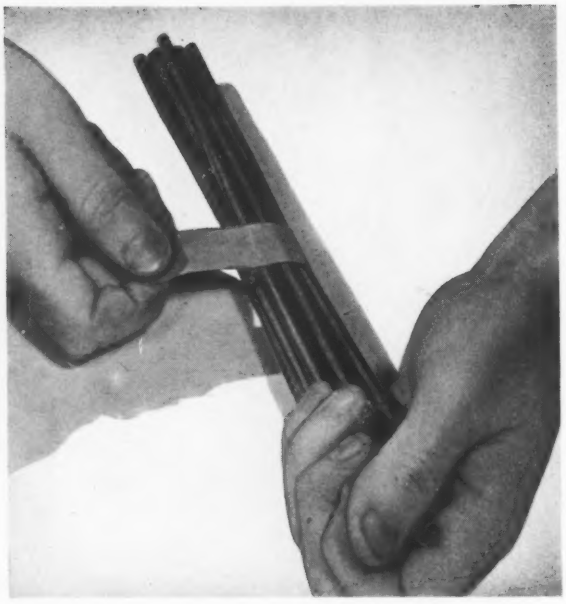
2. Tape is used to seal signal flare containers against moisture. 3. Tape guards packages of blood plasma and holds through heat, water, cold and drops by parachutes. 4. Ration cases are strengthened and protected by use of pressure-sensitive tape. 5. Chemical companies are extra careful to tape every container to assure safe arrival.

4



5





6. Small parts are easily identified and classified by the use of tape for binding them together into bundles.

acetate tape as wide as $4^1/_2$ in. is used for sealing these gun apertures and they remain sealed until the first salvo tears away the tape.

Automatic movie cameras in planes must have perfect film at all times To assure this, black cloth tape developed to obstruct daylight and prevent desensitizing is used to seal film loading canisters.

Lifeboat blanket packages are protected from salt spray and fog by sealing with cloth tape so that the blankets are dry when urgently needed.

Blood plasma cartons are sealed with tape for several reasons. In addition to keeping out the air, germs and water, tape helps the package to withstand impact. Very often plasma packages are dropped by parachute (sometimes without) on land or into the sea, and the tape must hold.

First aid kits, food cartons containing everything from biscuits to compressed rations, Army slip cover tins fo coffee and other foods are sealed against germs, air, dust, moisture and wood with cellulose and cloth tapes. Chemicals, drugs, ammunition and packaged parts are sealed with colored tapes for two reasons: to identify as well as seal.

The effect of poison gas, that most dreaded weapon, is controlled to some extent by pressure-sensitive tapes. Cloth tape seals the joints and junctures of gas mask tubes to keep out fatal fumes, but in an attack, a mask is not sufficient alone. There is the problem of skin burning caused by globules of liquid in the air. Gas capes, two sheets of transparent plastic laminated together, are worn over the entire upper part of the body to "package" it for complete protection. One of the only materials found satisfactory for joining and sealing the seams of the cape is cellulose acetate tape. A sewn seam would produce holes that would provide entrance for the gas.

Censor's work is lightened by pressure-sensitive tapes. After examining the contents of an envelope, a strip of transparent cellulose printed with his number firmly and quickly reseals the letter without covering information necessary to the delivery of the material.

Colored flares, an important part of warfare, are tightly sealed in their canisters against moisture with tape. When shot into the air at night a special timer releases a parachute at 1,500 feet setting forth the signals that mark the attack. Colored smokes used for daylight attack are similarly protected.

So that they will be doubly protected against moisture and error in selection of different size shells, artillery ammunition containers are sealed with colored cloth tape. Sealing tape also keeps the mechanism and openings of rifles and guns free of snow, sand, and mud so that such arms are at all times ready for action.

Like airplanes, tanks must also be safeguarded against corrosion during shipment. In the engine and crew compartments, engine intake and exhaust, breeches of guns, large and small bags of silica gel, a dehydrating agent, are placed to absorb moisture up to 40 per cent of their own weight. Humidity indicators are taped under windows or near portholes to warn against moisture. Sealing openings with cloth tape prevents additional moisture from entering and overtaxing the gel

Laminating and covering

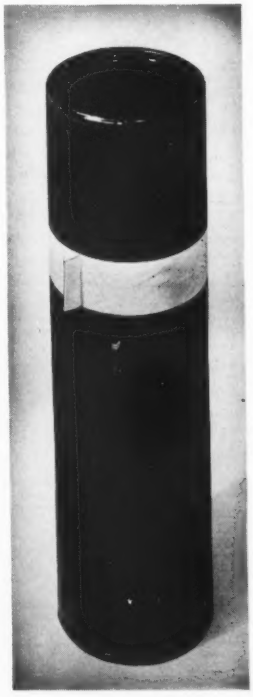
Tapes are widely used as coverings. For example, pass cards carried by defense workers are covered with cellulose transparent tape to keep them clean, untorn and to prevent tampering. Glass gages on machinery and instrument dials are covered so that a "safety glass" is created to protect the worker from scattered fragments in the event of an explosion or concussion. War maps and documents are "packaged" with coverings of transparent tape to keep them clean and readable. Labels on food and mechanical equipment are safeguarded against obliteration by sea air, moisture, soiling, rough handling and against tampering by coverings of transparent cellulosic tapes.

Cloth tape is used to cover sharp edges, to prevent wearing of cords, to cover cross stitching on fabrics. It is also used over metal ends of release springs that might tear delicate fabric or parachutes.

Tape for masking purposes saves time and war material. The following is an example of such a use in shipping. When crystal-clear, optically perfect transparent plastic airplane cockpit enclosures, windshields, bomber turrets and other strategic parts leave the factory for the aircraft plants, they are carefully protected against scratches, dust and other travel hazards by a layer of soft cotton covered with brown paper. This is firmly attached to the plastic part with strong paper tape. When a piece of equipment is finally ready to be installed, there is no time lost unpacking the section. The tape peels off quickly, leaving no residue to mar the sparkling surface.

(*Continued on page 106*)

7. Shell containers are protected with tape seal.





Judges pull packages apart, but there was no pulling of punches in picking the winners.

All-America judging

The judges met at the Waldorf-Astoria January 20 to pick the winners in the 1942 All-America Package Competition. This meeting was one of the most critical sessions in the thirteen years since Modern Packaging instituted this annual activity.

Selections by pre-war standards were impossible, so pronounced were the changes necessitated by current shortages of packaging supplies and requirements for protection. The 33 winners, who will be announced in our April issue, will be representative of all the initiative and all the ingenuity that have been shown during the past year in adapting materials and methods to the needs of war economy.

Frills and curlecues of "ante-bellum" days did not count and were conspicuous by their absence. In place of the frills were sturdy packages built for war. There were ration packages to feed soldiers on the march, constructed to endure every kind of weather and treatment. There were packages which can be dropped by parachute and floated ashore from landing barges for invasion troops. There were lend-lease packages to carry dehydrated foods to the starving millions of the world. There were ammunition boxes to hold shells and cartridges.

There were paper packages to hold oils, paints, shortening. There were paper packages to hold toothpowder, drugs, foods, cosmetics. There were glass packages with paper closures which a year ago nobody thought could be closed with anything but metal or plastics.

Few entries appeared in the showy transparent plastic boxes of other years and there were no wrappings of cellophane purely for display purposes. The former has been diverted to war production and cellophane is restricted for protective purposes only, such as wrappers, laminations and liners for containers to hold food. Gone, too, from this year's exhibit were the metallic foils for cheese, candy and gum, as well as tin cans for soups, paints, motor oils, insecticides and hundreds of other products.

This year's judges were. William M. Bristol, Jr., Bristol-Myers Co., whom we have called "Chief Justice" of All-America Package Competitions, because in thirteen years his services as a judge have been interrupted just once when he was called to Washington in 1942 to serve the WPB; Bessie Beatty, radio commentator, whose friendly voice is heard daily by millions of homemakers over Station WOR; Lucien Bernhard, designer, whose cardinal principle of simplicity was singularly appropriate for this year's judging; Standish C. Marsh, director of merchandising, The J. Walter Thompson Co., who knows which packages "click" because of his first-hand contact with grocery, drug and department stores; Ray M. Schmitz, vice-president, General Foods Sales Co., who understands the problems of package structure, protection and production.

Certificates of award, designed by Mr. Bernhard, will be presented in New York City during the week of the Packaging Exposition, April 13 to 17.

Design Histories



CLICK TOP CARTON

Recently designed for bandages is this click top carton which has been adopted by The Forest City Products, Inc. Their Sentinel Handy Bandages, both regular and mercurochrome, are being marketed in these all-paper cartons which replace vital metal containers.

This special hand-fold version of the click top carton was developed to be used in the absence of assembly machinery. Assembly and the filling operation must be done by hand, but the tuck bottom style of the carton helps to make the filling easy. Another advantage in the filling is the fact that the cover is permanently attached, is actually a part of the carton itself, and cannot become separated from the package. This speeds up the manual line since workers do not have to perform as many different operations as they would if the top were separate.

Origin for the bandage package was in a click top carton created to replace the 2-oz. tobacco tin. The new version is beginning to find a wide variety of uses because it can be adapted to many different products packed in small cartons. It is sturdy and affords product protection over a long period of usage. Consumer convenience as well as the saving of essential materials has been incorporated into the carton structure. The contents are immediately accessible upon flipping open the lid. The box may then be securely reclosed by slight pressure on the cover and it will remain securely closed. Since this replacement package is the same size as the original package for the bandages, there was no change in packaging materials or shipping containers.

Credit: Designed by W. A. Ringler. Carton made by The Gardner-Richardson Co., Middletown, Ohio.



BOX INTO BOWL

Kellogg's ready-to-eat cereals are now being supplied to United States army messes in an entirely new type of individual package which itself serves as the cereal bowl.

Development of the new Kel-Bowl-Pac by the Kellogg Co. of Battle Creek, Mich., makes possible the serving of ready-to-eat cereals under conditions where it was formerly inconvenient or impossible to supply men with cereal bowls, such as during those times when men were on field maneuvers, on troop trains or in organizations using mess kits without bowls.

The front panel of the handy new package is perforated, making it easy to open. By cutting the heat-sealed wax paper bag which is inside and holds the contents, the carton is converted into a sanitary, moisture-proof, wax-lined kind of dish or bowl, all ready for milk and sugar to be added to the cereal. Five Kellogg cereals are now packaged in the Kel-Bowl-Pac—corn flakes, rice flakes, Pep, Rice Krispies and 40% Bran Flakes. These are kept fresh and palatable by the protective packaging. Numerous attempts have been made by the Kellogg Co. as well as a number of other companies to develop a type of "bowl package," the company states. These attempts date back to several years ago, but it was not until recently that the Kellogg Kel-Bowl-Pac was perfected and placed on the market. To show the consumer just how easy it is to eat out of the package, each carton has simple and graphic instructions about how to open the box properly, slit the wax paper bag, add milk and sugar and spoon out the contents. The carton side opens back in two flaps, the bag when slit across the top, lines the bottom and sides of the carton so that the milk will not leak out.

Design Histories





FABRIC COVERINGS

Strict adherence to simplicity of design is the keynote in these products for the bath. When Milkmaid, Inc., first created their cosmetic line, they chose dainty, non-fussy designs and clean-out packages. Cue for the line was afforded in the principal ingredient for a number of the products—milk. Highly decorative boxes and bottles would be out of harmony with cosmetics that used this universal, everyday ingredient they felt. Set-up boxes and the milk-colored glass bottles and jars all had the small blue and pink forget-me-not motif and tiny roses. Everything was kept fresh and white.

Now, Milkmaid in adding bath oil, toilet water, a powder mitten and sachet to their regular line have maintained the same family design and the same freshness and simplicity. The new note struck, however, is the use of a cotton fabric for tight wrapping the boxes. The fabric is white, very much like the fine cambric that ladies of grandmother's day used to insist upon for their special handkerchiefs. Scattered over the fabric are tiny forget-me-nots and roses in blue and pink. Around the edges of the containers white lace is gathered to make a ruching.

Toilet water fills the clear white glass jug. A smaller jug, shaped like the toilet water jug, holds the bath oil. The latter jug is of milk-colored glass and has a glass stopper as does the container for toilet water. These tiny decanters are effective sales agents for their products and they help to decorate the dressing table.

Credit: Boxes, J. Makowsky Corp., New York City. Bottles, Westmoreland Glass Co., Grapeville, Pa. Fabric coverings, Maharam Fabric Corp., New York City.

BAKED BEANS IN BAGS

It is common knowledge that because of the tin and steel shortages, baked beans in cans have been ruled out. But that does not necessarily mean that there will be no more baked beans for bean hungry Americans or that the nationally popular food will no longer be seen on family tables unless the beans are baked by the home cook. Already on the market are a number of different kinds of containers which have been devised as substitutes for the familiar tin. Since Boston is credited with the origination of the baked bean, it is indeed fitting that a Boston firm—Friend's—should be among the first to create a new type of package for their Boston baked beans. These beans are baked in the old fashioned way, then quick-frozen and wrapped in a cellophane bag which is in turn placed inside a cylindrical paperboard container.

The beans are packed at a temperature of 190 deg. F. and then cooled for two hours before freezing. The production of the new frozen food has reached a volume of 40,000 pounds a week, it has been estimated, and is expected to double this figure very soon. Judging from the very favorable reaction, the packer states, frozen baked beans may remain a popular item after the war. The package is very easy to open and the beans require only a few minutes heating to prepare for the table.

Many people have become acquainted with the packs used for frozen foods and these foods have grown steadily in popularity over the last few years. The introduction of baked beans into the frozen food field is not as radical as it might have been several years ago when people were just being educated to the new quick-frozen process and package.

Credit: Cellophane, E. I. du Pont de Nemours & Co., Inc.

Foods in miniature

Blocks of onions, potatoes and carrots smaller than a shoe box will each cook up to feed 100 men. A bowl of cabbage soup can be extended to feed about 80 men. A 1-lb. brick, small enough to slip into a coat pocket, contains 24 servings. These foods in miniature are the results of a new process known as compressed, dehydrated foods. They are the nutritional ammunition that is planned to help win the war and many of which may become popular with civilian consumers in the postwar era.

The average soldier, it is estimated, eats about a ton of food a year. If he were served ordinary natural foodstuffs, this would mean that it would take a refrigerator car or a large part of the hold of a vessel to transport enough food for just one man in the armed services. With an army of millions of men, the transportation problem would become so great that it might prove insurmountable. At a time when wasted shipping space may delay the day of victory, it is folly to export water and air to Europe, Africa and half-way around the world to the Southern Pacific. Yet the carrying of ordinary foodstuffs involves much waste of this sort. Recognizing this, the authorities in charge of provisioning the Allied armed forces and the millions of civilian lend-lease consumers took steps at once to avoid unnecessary hauling of water. They ordered dehydration of much of the food. This process reduced the space from 50 to 90 per cent on various items. It also improved keeping qualities and in many cases ruled out the need for refrigeration.

Now the next logical step was to squeeze out that other space-robber—air. This is being done in a process which compressed dehydrated foods into blocks or briquettes. The additional space saving achieved by compression ranges from 30 per cent for dried whole milk to 80 per cent for cabbage. The Auto Ordnance Co. of Greenwich, Conn., makers of the Thompson sub-machine gun, has developed the process for making this food. So far the results have been promising, according to John C. Donnelly, chief of the company's food research laboratory. Every effort is made to produce top quality foods in their compressed dehydrated states.

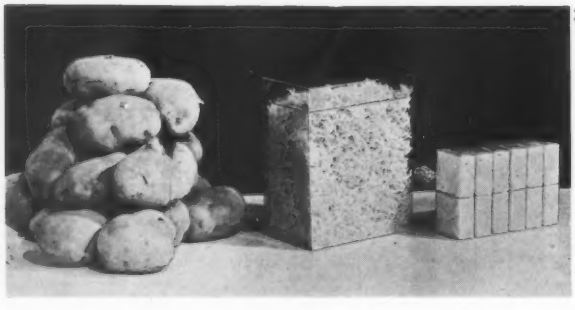
During the last war, dehydrated foods were processed in this country, for the use of men in our army and navy, as well as for a certain amount of civilian consumption. However, no attempt was made to keep them as palatable and as as high a quality as fresh foods. Most dehydration plants shot up like sprouts, were not fully equipped and were without special food testing laboratories. Consequently, when the war was over, dehydration was relegated to its pre-war status. So far as the average consumer was concerned, dehydrated foods were distinctly something to eat if a person were lost on a raft at sea and starving. Many dehydration plants closed and there was an end to it—almost.

This war came along to boom again, among other things, the dehydration industry. But this time food experts have stepped in to try to make the foods more palatable. Because the United States has taken on the tremendous task of supplying food not only for its own people, but also for people scattered all over the globe, more and more experiments had to be tried in order to reduce the bulk of foods to be shipped, and to reduce the bulk without making the resultant food

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1. Dehydrated beef fills the large package. When the beef has been compressed into tiny squares, eight of them fit into the small victory package at the right. 2. Nine lbs. of raw potatoes. Shredded and dehydrated, they fill the exhibit container and weigh 18 ozs. Compression reduces the volume by 75 per cent, as shown by block of 12 cakes. 3. Raw carrots, dehydrated and the same carrots dehydrated and compressed in briquettes. In boiling water, the vegetable reconstitutes in a few minutes.

taste something like a cross between hay and sawdust. This is true of compressed, dehydrated foods as well as just dehydrated foods. Compressing is an economic improvement on dehydration, but it is also expected to have further advantages. These foods are being packed in small units which are like small cakes of yeast. Each one of the cakes contain servings for two, four, six or more. Exact amount of servings indicated will help to take much of the guesswork out of cooking the foods.

Compressing reduces the size of food, but it also may extend the time element of staling and increase the shelf life and lower the package cost. It has been estimated that 1943 dehydrated food processing will save more than 100,000 tons of metal, by eliminating or reducing metal container requirements. Normal size and shape are regained readily when these compressed foods are placed in milk or water for approximately a minute. This immediate rehydration is, of course, a tremendous advantage over many former dehydrated foods which required hours of soaking in water before regaining their original structure.

The WPB and the U. S. Army Quartermaster Corps have been much interested in these compressed dehydrated foods. Should the idea find adoption by the government agencies, it would become a major food program. Colonel Paul. P. Logan of the Subsistence Branch of the Quartermaster General's Office has said that more than a billion pounds of dehydrated foods, including eggs, meat, milk, vegetables and fruit are planned for 1943. For most of these items 10 pounds of raw food are required to make one pound of dehydrated foods. Thus approximately 10 billion pounds of American food will be used in this program.

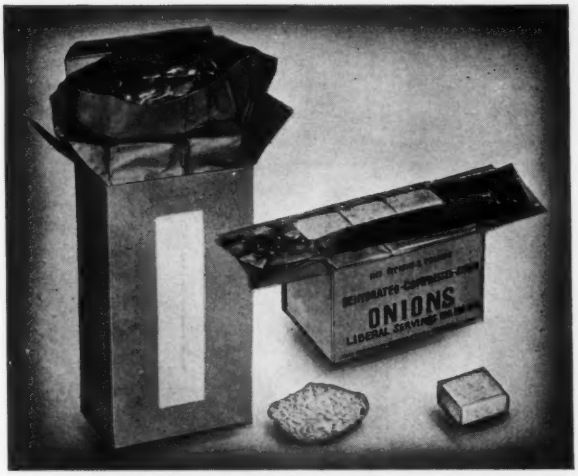
Eggs, because of their high nutritive value, have been an important lend-lease and army item. After unfortunate experiences trying to ship fresh eggs to England, the authorities shifted to dried eggs, which are easier to keep and take only a sixth as much space as fresh ones in the shell. When compressed, the dried eggs occupy only half as much space as before. A 14-lb. package of 1-lb. blocks of dried eggs contains the equivalent of 537 eggs. Or, a dozen eggs, dried and compressed, ride in less the cargo space needed for only one in the shell.

A variety of fruits and vegetables, including beets, carrots, onions, cabbage, sauerkraut, cranberries, apples, as well as soup mixes have been put up in compressed form and experiments have also included puddings, ice-cream mixes, coffee, flour and pre-cooked cereals, meats, and, last, a special kind of cereal and meat mix which tastes like hamburger and onions.

By this new method, after the foods have been dehydrated, they are compressed to reduce the bulk further and to take out the air. A feature of the method is the use of sub-freezing temperatures before and during compression. The dehydrated material is quick-frozen at temperatures ranging from 20 above to 20 below zero deg. F.,depending on type of food product. This cooling keeps the flat globules of the food from breaking down under the subsequent pressure, it is explained. Both the temperatures and the pressure, as well as the time of compression, are adjusted to the particular food being prepared. The pressures range from 250 to 2,500 pounds per square inch. The specialists at the New York State Agricultural Experiment Station at Geneva, New York, who also have been experimenting with compressed, dehydrated foods in their laboratory, report that they have subjected dried vegetables to pressure up to 10,000 pounds per square inch.

As each block of food is compressed at the Auto Ordnance laboratory, it is immediately wrapped in moisture-proof

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4. Container on the left holds loose, dehydrated sliced onions. When compressed, small carton of small onion squares affords liberal servings for 100 men. 5. Volume occupied by dried eggs is cut in half by compression.

cellophane, which is then heat-sealed. The film affords adequate protection for the food while taking up a minimum amount of space. It can also be applied on high-speed wrapping machinery. Standard cellophane wrapping machines, such as those used for cigarettes, can, if properly equipped, be adapted to the wrapping of the tiny blocks of provisions, it is stated. The food can be compressed at the rate of 120 cakes per minute and the wrapping and sealing machinery can more than keep pace with that, according to Mr. Donnelly of Auto Ordnance who has experimented with the packaging of the food items as well as the method of compressing and dehydrating.

Experience to date indicates that compression and the resulting reduction of the food surface exposed to the air cause the dehydrated eggs, vegetables, meat and other foods to keep much longer than the dehydrated but uncompressed form. Compression squeezes out most of the air and thus reduces the opportunity for oxidation, which has always been one of the contributing cause of food spoilage.

Everything for paints but metal

by J. K. Novins

Paint in glass bottles, in glass jars, in wooden buckets and kits, with related products such as pastes and cements packed in ice cream cartons made of fibre—this is one more instance of wartime conversion from tin and steel which The Paraffine Companies, Inc., San Francisco, Calif., manufacturers of Pabco paints and roofing materials, have accomplished and it typifies an interesting development in the paint and allied products industry.

Pabco paints, formerly distributed in tin cans with press-on tops, are now available to the trade in fruit-jar type glass containers with continuous-thread closures. For certain of its paint products, Pabco now uses also the glass bottle type, the half-pint and quart sizes, which resemble medicine bottles, and the small-mouth gallon glass jug, also with a screw top. For the 5- and 10-gal. packs, this firm has changed from steel to wood buckets, wood kits and barrels, each with a suitable closure made of wood.

Another innovation is Pabco's use of fibre containers for such specialized products as linoleum cement, heavy plastic materials used for roofing and stucco patching, which were formerly packed in tin. WPB Limitation Order L-103, standardizing and simplifying glass containers and closures for paints, was a "Go" sign for the paint company to devise special containers for materials which could not very well be packed in glass, of which the new line of $^1/_2$-pt., qt. and 1-gal. fibre containers is an interesting example. New, too, is the method of packing nails, used in roofing, in spiral-wound fibre tubes, designed to fit compactly into cartons.

Selection of material within the scope of wartime limitations and restrictions and designing the new line of substitute packages created problems and difficulties for Pabco. The 128-oz. food jar could readily be adapted to the non-pigmented paint materials, but for the highly volatile pigmented paints the 130$^1/_2$-oz. jar was correct to allow for "overflow" space. Similarly, the 34-oz. glass container was standardized for quarts, 17 oz. for pints. However, as a conservation measure Pabco discontinued pints and quarter-pints.

The bottle types are used for the strictly non-pigmented materials, such as linseed oil, varnish, turpentine and painter's thinner, while the jars are used for pigmented materials that require a stirring because of separation of pigment and vehicle. It is essential to provide an air-tight condition to prevent the product from drying out and forming a kind of skin over the top.

Especially interesting are the closures adopted for the cartons and wood containers as well as the glass bottles and jars and the method employed to effect air tight conditions. In the case of fibre containers for cements and other heavy plastic substances, the tops are virtually self-sealing and no mechanical problem has been created. The 1-gal. fibre container is equipped with three-ply jute lid, which is regarded of sufficient strength for this special use. When this lid is mounted, it is held in place by the highly adhesive package content, whether this be linoleum cement, black hydroseal, flashing compound, or other compound used for stucco work. In addition, the container is treated on the inside to prevent seepage through the walls and at the seams. For the closure Pabco has standardized on .030 jute board.

The wood kit for the 5-gal. quantity of paint is considered new in the paint industry and so is its companion package, the 5-gal. wooden bucket. Of like construction but differing in shape, kind and size of closure, these kits and buckets serve as utility packages for special paint products which in the 5-gal. quantities formerly were available in heavy steel buckets. The kit with its wide base and tapering top is tip-proof and is thus suitable for the packaging of heavier liquids. It also possesses other advantages, such as an unusually tight closure. The wood tub, however, is of lighter construction and is suitable for lighter liquids and plastics. Both are equipped with wire bail and wooden grip for carrying and are stoutly secured by three double-riveted steel hoops of 23-gage metal, $^3/_4$ in. wide.

Both the bucket and kit are silicate lined as safeguard against leakage. The 10-gal. barrel, made of stout fir, is bound with six steel hoops, making it a very serviceable container for heavy purpose use as well as of unusual strength for long hauls and handling in warehouse and dealer establishments. Exhaustive tests were made by the company to discover its strength and durability. The 5- and 10-gal. wood containers were shipped long distances to various points on the Pacific Coast and back to the company's plant in Emeryville without breakage or other damage.

As further precaution against leakage through evaporation,

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the wood container's exterior is given a coat of black paint. Aside from that consideration, the black exterior establishes a resemblance to the steel bucket containers formerly used for 5- and 10-gal. quantities and serve further to individualize Pabco containers.

The 5-gal. fibre tube has a snap-on cover of wood, while the kit with tapered top uses as a closure a wooden bung four inches in diameter. The opening is off-center to facilitate pouring of the contents, while in the barrel use is made of a similar but smaller opening. Pabco engineers had a problem on their hands to find the most suitable method of sealing the bung until they hit upon the idea of using linoleum cement, a Pabco-made product of strong adhesive qualities, which can easily be removed by scraping.

Plans are underway to convert mechanical facilities for automatic filling, closing and labeling of glass containers and the company feels confident that this can be done without altering fundamental operations. The "milker" type of filler used for paint packages operates with a suction flow through a pipe line which extends over the packing table. As cans pass under the mouth of the extended pipe they are filled with the required quantities of paint, the amount and interval of fill being controlled by a tipping device. With some minor changes, this flow can be adapted to the jar type glass containers with wide openings and with use of a nozzle adapter this can further be regulated for bottles with small openings.

The change-over from press-on to continuous thread tops is another mechanical conversion problem on which Pabco engineers are now working, with the possibility of using present equipment but adding an adapter for screwing on instead of pressing on the closure. Similarly, it is felt that present labeling equipment could be readily converted for glass jars and bottles, since the fundamental operation is the same. The cans are rolled sidewise to take labels, then continue on a conveyor to packing table. This method is adaptable to glass if proper precautions are taken and necessary mechanical adjustments made.

An important consideration, growing out of the wholesale conversion from tin to glass, is the selection of heavy-duty shipping cartons, as the experience of Pabco has demonstrated. For tin cans, the (*Continued on page 104*)

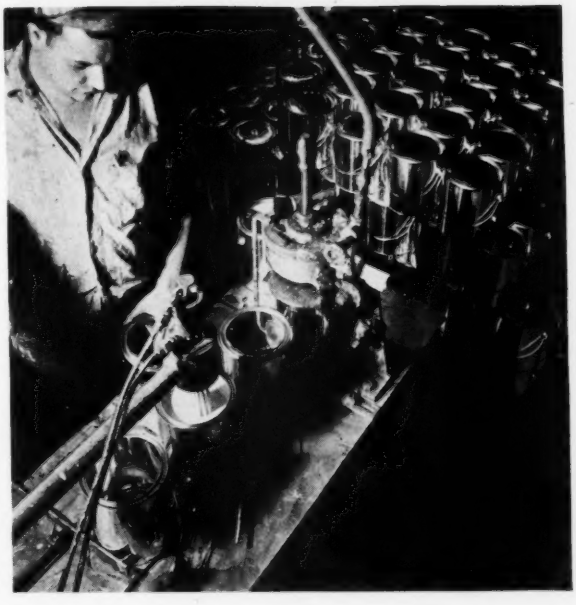
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1. Jars and bottles are used for paints in half-pints, quarts and gallons. 2. Cements and like substances come in fibre containers which are glue lined to eliminate seepage and are self-sealing. 3. Types of wooden containers used for paint products. 4. Fibre tubes and jars for roofing nails and lap cement are packed in fibre cases. 5. Shipping department in Pabco plant. 6. Automatic filling machines for cans may be converted to handle glass.

Keeping fire protection up-to-date

*by Delbert Johnson**

"Is fire safety a problem in our shift from a standard packaging material to a wartime substitute?" This is a question that every executive in charge of packaging operations should ask himself. In most cases the answer will be, "Yes."

At least five points should be carefully investigated whenever a change is made in packaging materials. These points are:

1. *Are any of the new materials combustible?* In those cases where paper or wood has taken the place of metal, the answer probably will be yes. Sometimes, however, an offhand answer is impossible and the manufacturer who supplied the materials will have to be consulted. Only after all the facts are known can proper steps be taken to safeguard the department from fire.

2. *Have new flammable ingredients been added to the commodity itself?* This problem will not affect everyone. In a wide variety of industries, however, especially those in chemical and related fields, a change in formula or in the construction of the commodity itself may indicate the need for special precautions in the handling and packaging operations.

3. *Are "green" workers employed?* This problem in fire safety affects almost every employer of labor today. Wherever a large number of inexperienced workers have been added to the payroll, the fire loss record tends to rise. New workers frequently are not familiar with the most ordinary hazards. They do not always understand why the management posts "No Smoking" signs or insists upon their following certain precautions, such as those governing the use of flammable liquids. A vigorous fire safety program, including both prevention and protection aspects, is the only way that this problem can be solved.

4. *Have new packaging methods been introduced?* A change in packaging routine, possibly made necessary by the use of new materials, can create hazards never before encountered. Combustible materials may now tend to accumulate in certain bins, storage rooms or packing benches; aisles, passageways and doors may become obstructed; or flammable liquids may be found in use too close to sources of heat, friction or electrical equipment. In addition, a change in packaging operations usually involves a certain redistribution of materials and equipment. In this case, it may also be necessary to relocate fire-fighting appliances to insure the same protection as before.

5. *Are packaging operations now located in new or enlarged quarters?* If so, every effort should be made to see that employees know where fire extinguishers, alarm boxes and exits are located. If the new quarters are larger, more broken up or differently laid out, additional fire protection equipment may be required.

These questions will help diagnose weak points in a packaging department's fire defense. Steps taken to correct these vulnerable spots will fall into two distinct categories—those of fire prevention and of fire protection.

The standards for fire prevention are well known. Those which need particular emphasis in packaging departments include: the subdivision of combustible materials, from receiving through shipping stages; good housekeeping, to prevent hazardous accumulations of rubbish; care in the use of flammable liquids; a rigid enforcement of "No Smoking" rules; and safeguards to prevent ignition from open flames, friction and electrical short circuits. In some places, dust and spontaneous ignition hazards are additional factors.

But even after all reasonable precautions have been taken to prevent an outbreak of fire, fires still will occur. Hence it is necessary to provide means to bring such fires under control before they spread and do extensive damage.

Automatic sprinkler systems and standpipe hose are invaluable allies in the fight against fire. In countless cases a deluge of water from overhead sprinklers has prevented extensive fire loss. Although the maintenance of automatic sprinkler and standpipe systems usually comes under the jurisdiction of plant management, departmental heads still have certain responsibilities. They must supervise the removal of obstructions, such as high storage piles, that might prevent a free distribution of the sprinkler discharge. They must also call to the attention of the plant management any changes in the physical arrangement of the department that may require alterations in the sprinkler system. Further details on the care and upkeep of these systems can be obtained from the National Fire Protection Assn.

Every packaging department should be well equipped with the right kind and number of fire extinguishers. Fire extinguishers are "first aid" equipment; their purpose is to put out fires in their early stages. An extinguisher in the hands of an alert workman can save thousands of dollars worth of stock and equipment from losses due to fire, smoke and water damage. As evidence of the wide-spread efficacy of this form of protection, the National Fire Protection Assn. states that from 70 to 90 per cent of all fires that break out in factories or public buildings are put out with hand extinguishers before they have a chance to spread.

But the degree of protection provided by a fire extinguisher depends, first of all, on proper selection and location. There are three different kinds of fires—Class "A" fires, which are those in ordinary materials, such as wood, paper or textiles; those in flammable liquids, such as paints, lacquers and certain petroleum solvents, designated as Class "B" fires; and Class "C" fires—those in live electrical equipment. Not all types of extinguishers are equally effective on all classes of fires. Hence it is important in protecting the hazards of a particular location to know what kind of fire is likely to break out there and, from this, to determine what kind of extinguisher protection is needed.

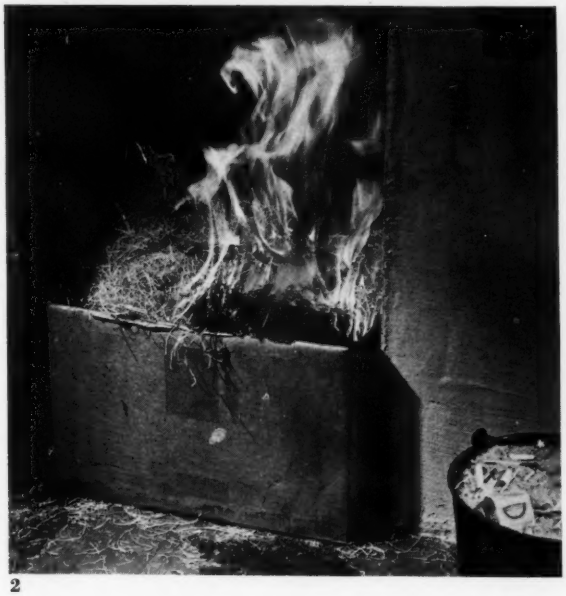
Although any kind of extinguisher can be used to put out a fire in Class "A" fires, those containing water or water solutions are most effective. They are the soda-acid, foam, pump tank, gas cartridge and loaded stream types. The water content of these extinguishers cools and quenches the blaze.

A stream of water, however, is not effective in putting out a blaze in flammable liquids, and, if used, may even spread the fire. What is needed here is a smothering agent that will blanket the burning material and cut off the oxygen supply.

* Safety Research Institute.



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1. ***In providing adequate extinguisher protection, this equipment must be properly maintained. Extinguishers should be inspected at least once a year.*** **2.** ***Rigid enforcement of "No Smoking" rules and elimination of rubbish accumulations will prevent such fires as this.***

Extinguishers which meet this requirement are foam, vaporizing liquid, carbon dioxide and loaded stream types.

In fighting fires in live electrical equipment, an extinguishing agent must be used that is a non-conductor so it will not damage equipment or transmit a shock to the operator. Water may do both. The only extinguishers which are non-conductors of electricity are the vaporizing liquid and carbon dioxide types.

The merits of any fire extinguisher can be judged by whether or not it has been approved by Underwriters' Laboratories, Inc., or Factory Mutual Laboratories. If so, it bears a label indicating such approval. With an increasing demand for fire protection due to a variety of war conditions, plus the fact that restrictions have been placed on the manufacture of certain kinds of fire-fighting equipment, a plethora of unapproved devices has appeared on the market.

The two approval bodies mentioned above have eased the situation by granting temporary certificates of approval, valid for the duration, for certain kinds of equipment which are now being made with non-critical substitute materials. In most cases this temporary approval simply means that such equipment will pass standard performance tests, but cannot be expected to stand up for as long as the devices made of more durable materials.

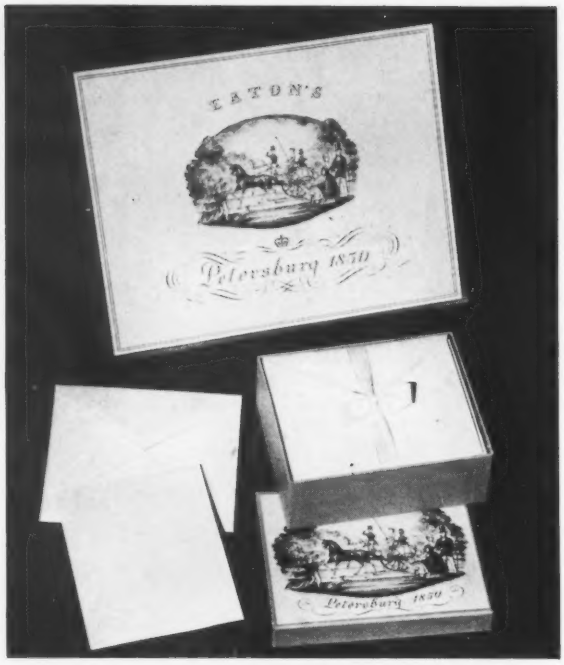
A plan for determining the number of extinguishers required to provide adequate protection for different kinds of occupancies has been worked out by the National Board of Fire Underwriters. These regulations classify different kinds and sizes of extinguishers according to a "unit" system and indicate the proper distribution of these units according to floor area, occupancy arrangement and degree of hazard present. In general, in areas of ordinary hazard, one extinguisher should be installed for every 2,500 sq. ft. of floor area and be so located that a person will not have to travel more than 50 feet from any point to reach the nearest one. Most insurance companies and fire departments base their requirements upon these regulations. However, if the departmental executive has any questions regarding the adequacy of his extinguisher protection, he may obtain copies of these regulations upon request to the National Board of Fire Underwriters, 85 John St., New York City.

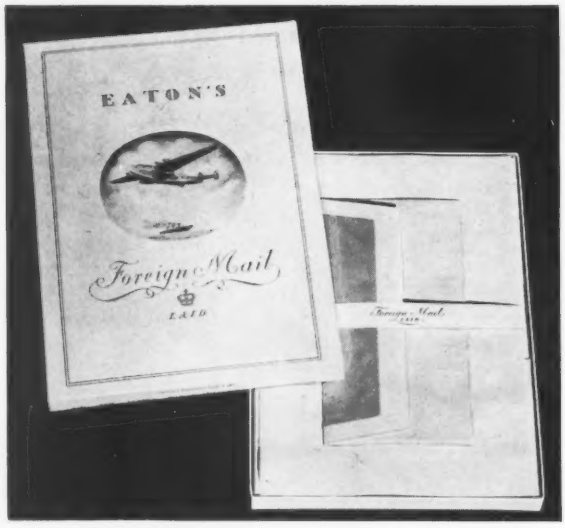
Another important point to keep in mind in providing extinguisher protection is that of keeping this equipment properly maintained. All types of extinguishers should be inspected at least once a year and, if necessary, they should be recharged. This recharging can be done on the premises by an employee, except in the case of carbon dioxide types, which must be returned to the manufacturer or an authorized agent for recharging. However, only refill materials supplied by the manufacturer should be used and, if repairs are needed, the equipment should be returned to the manufacturer for proper servicing. A high priority rating is required to buy new estinguishers today. This is an added incentive to take good care of present equipment.

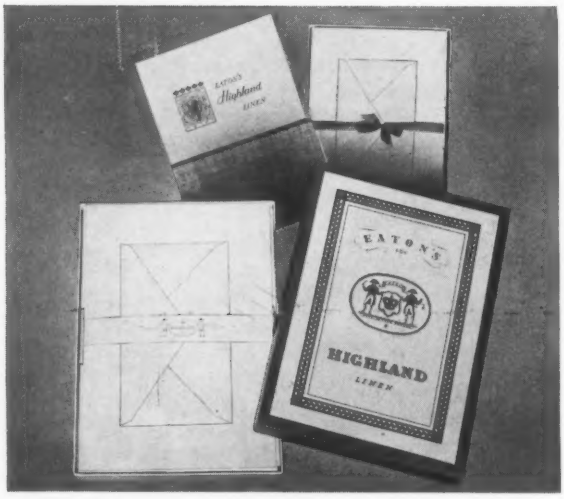
A third important point in connection with extinguisher protection is that of employee training. A good tool in the hands of an inexperienced workman is used to full advantage.

A sound program of fire protection training will insure that every worker knows where fire extinguishers are located, that they can tell which ones are for use on flammable liquid and which on electrical fires (colored markings are helpful) and that they are familiar with the operation of different kinds of "first aid" fire protection equipment. Many large plants and departments organize this training around a basic fire defense plan in which every worker has a certain routine to follow when a fire emergency develops. The Office of Civilian Defense has issued helpful materials on this subject.

A good time to demonstrate the operation of extinguishers is during the annual inspection and recharge. Since most extinguishers have to be discharged before they can be refilled, employees can be given a chance to see how they operate. If feasible, certain employees can be invited to try their own hands at putting out a real or imaginary blaze. This practice will give them the feel of an extinguisher and will prepare them to deal effectively with the next small fire that breaks out.







Stationery in wartime

The stationery business is booming. Millions of letters are passing between men in the armed forces and their families and friends at home. At such a time, when any good stationery will sell, one might wonder why a stationery manufacturer should choose to redesign his packages.

Yet announcement arrived recently that Eaton Paper Corp. has redesigned nine of its best-known and fastest-selling staple boxed papers. Reasons behind this purposeful, long-range planning were presented in a statement by George P. Clayson, vice-president of the Eaton Paper Corp. He said:

"We have never been satisfied with something that is 'good enough.' Progress means change. While it is very true that Eaton could sell all the staples it can produce, even in boxes of former designs, we felt that now—just when there are restrictions in practically everything—was the time to apply all of our creative intellect and designing talent (on which there will never be priorities) to make even stronger the staple papers which are the very backbone of stationery profits for thousands of retailers throughout the country."

For several years, according to the company's statement, Eaton has sensed the trend toward increasing importance of staple stationery items and their merchandising policies have been formed around that basic factor. In their redesigned boxes, they have produced what they believe will not only hold all present users of these papers through the difficult war period, but will create new customers who will provide a firm foundation for post-war volume and profits. The designs for the staple items have also been conceived with the idea that they will be sold widely as gifts to replace at this time many other types of novelties that are becoming increasingly hard to get.

Introduction of the new designs coincides with the 50th anniversary of the company's manufacturing of stationery. The nine redesigned staples include the following: Highland Papers, Highland Airmail, Petersburg 1850, Foreign Mail Laid, Randomweave, Mayfair, Calais Ripple, Kidskin and Escrito.

A family tie-up of all the packages is achieved by the use of similar outline type of lettering for the word Eaton on all the packages. Individual design of each of the boxes, however, is in keeping with the paper it houses. Most of these are inspired by period motifs, rather than modern. The technique in several cases is suggestive of old steel engravings, wall papers, tapestries and medallions. Subjects are swans, horse-drawn vehicles, knights on horseback, ladies and gentlemen in costumes of the Napoleonic era. There is generous use of color, yet many make use of only one or two for the entire effect. Only for the Airmail package does the theme become modern with an illustration of a plane to suggest the use of the paper. (*Continued on page 102*)

Note strong family tie-up achieved by similar lettering of company name on these examples from Eaton's nine redesigned staples of boxed stationery. All have been planned with anticipated government restrictions in mind. Envelopes have been greatly compressed to make boxes shallower: thus save board and take up less space.



Piping Pans, bright colored flowers and green grass have an all-American appeal as decoration for these soaps and cosmetics.

South American way

Since the beginning of the war, North and South Americans are finding out a great many interesting things about one another. Not the least of these things is that the two Americas have neglected, perhaps, to trade with one another as much as they could. On the letterheads of large United States firms were listed the branch offices—London, Paris. Occasionally only did the firm letterhead bear the name of a South American city such as Rio de Janeiro or Buenos Aires.

Today both South American and North American firms are thinking in terms of doing business with each other and of having branch offices established throughout the Americas. Most of this planning is, of course, for the post-war period, but in the meantime Americans are getting better acquainted. They are learning that there are certain differences in trade policies, in the consumer market, in transportation, in numerous business details that need to be understood before successful commerce in a wide variety of products can be established.

One South American firm which has not waited for the post-war time to begin doing business in the two Americas is the Para Ti Corp., makers of a line of cosmetics. The corporation's main office was in Venezuela and the business up until recently was carried on in that country and in neighboring South American republics. Now an office of the firm is located in New York City. Using materials for the products and packages which are manufactured in the United States, the South American firm is making and selling its cosmetics not only in the United States but also in South American countries. At present, of course, because of necessary wartime restrictions, the latter market is limited, but in a small way the company is keeping its trade name alive there and building up consumer recognition and good will in this country.

In expanding a market over the Western Hemisphere, officials of Para Ti state that the package itself must be considered first of all in the light of common consumer acceptance. This is particularly true for cosmetics, they claim, since women of the two continents often have widely differing views about what pleases them and impels them to buy certain packages. Prior to this war, most of the cosmetics sold in the America to the south were imported from Europe—France for the most part. A rather small number of local products were manufactured, but the market was really held by Europeans. Package changes were not frequent and that was why generations of Latin American women had purchased face powders and creams in familiar packages. There was none of the streamlining or seasonal and startling changes that characterized cosmetic packaging in the United States. Women leaned more toward traditional ideas about package design; they preferred the more elaborate decoration to the more typically modern motifs or the surrealistic.

However, Para Ti felt that in its Tuya packages for face powder and soap they had used in Venezuela, the company possessed containers that would have sales appeal for women in the United States as well as (*Continued on page 104*)

Banana flakes in cones

War stringencies and increased shipping costs combined to bring about the conversion of a Brazilian product formerly packed in tin in South America to a paper container packed in the United States. The product, banana flakes, is a comparatively recent one on the market.

The bananas, dehydrated to a point where $4^1/_2$ ounces of the product are obtained from 15 to 20 pieces of the original fruit, were formerly packed in double-sealed $4^1/_2$-oz. packers' cans in Brazil. They are now imported in 20-lb. metal containers and packaged in paper containers in New York City. Packing is done by the manufacturer of the containers, who has set up facilities to do custom packaging.

The banana flakes, originally the product of Industrias Franco Do Amaral, Santos, Brazil, are imported by and packed for Kannengiesser & Co., American distributors. They are extremely hygroscopic and if subjected to moisture vapor incline to crystallize and harden. Therefore, according to David Kannengiesser, head of the firm, an extremely moistureproof container is necessary.

Having become acquainted with, and used, to some extent, this cone-shaped paper container in Brazil, Mr. Kannengiesser turned to the supplier of this container when tin shortages and extremely increased freight rates threatened his importing business. Bulk importation with domestic packaging proved to be the logical solution of his problem. Fortunate in having a small stock of the small-size cans still on hand, the Brazilian originator continues to ship in that form as long as the cans are available. Thus, a few may still be found on retailers' shelves. However, to forestall a complete shutdown, bulk importing and domestic packaging are believed to be a far-sighted move. Many customers have already become accustomed to the new type of packaging from the paper cones packed in Brazil which have preceded the locally packed containers.

Mr. Kannengiesser reports that he submerged the containers filled with the hygroscopic banana flakes for a period of 36 hours, permitted them to dry normally in the sun and, upon testing, found the contents to be "at least 95 per cent efficiently protected."

The new package is a truncated, cone-shaped container consisting of a single thickness of paper with an overlap, sealed with an adhesive and taped for additional moistureproofness. Containers of this type were designed first about fifteen years ago for milk. One of the advantages claimed is that the package is untouched by hands from the time the container enters the dipping bath until it is filled and sealed. The bottom is inserted and spun on to form a waterproof, moistureproof seal. The side blank, imprinted or lithographed with the identifying label before forming, also has imprinted on its inside upper edge, a strip of non-toxic thermoplastic adhesive, especially developed for this purpose. Both the imprinting machine for the thermoplastic strip and the drying oven were built in the supplier's plant from odds and ends of metal and plaster board.

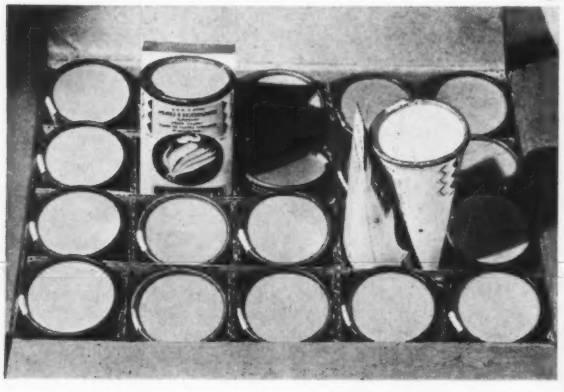


1



2

1. Banana flakes as now packed in cone-shaped, truncated containers. Banamalt is another product similarly packed. 2. Banana flakes were formerly imported from South America in tins, later in cone-shaped paper container with metal closure. 3. Space and weight are saved in the duplexed packing of the truncated shape.

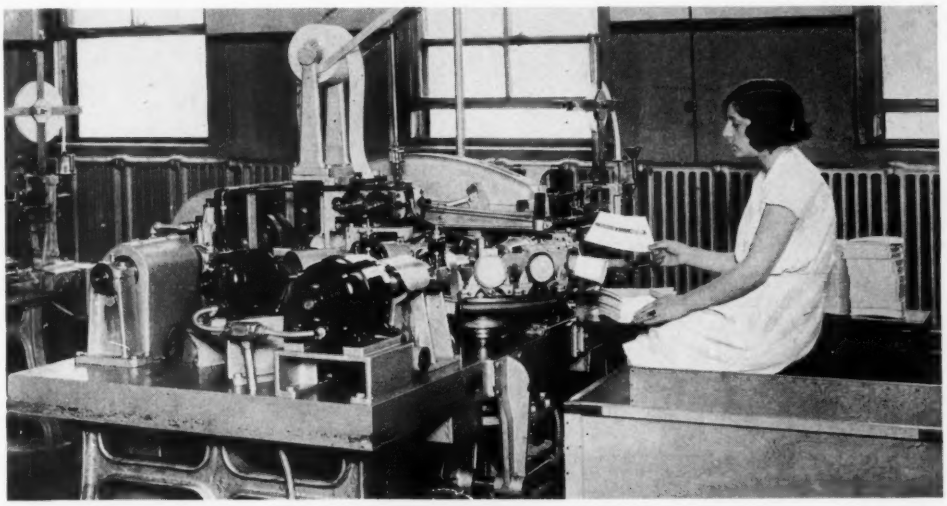

3

The side of the container is formed on a mandrel, eight mandrels arranged in star formation around a revolving hub. The bottom, die cut from a continuous roll, is formed just before it is spun on and the finished container is expelled from the machine by a blast of air. After formation, the cone is dipped in a paraffining bath at 180 deg. F. to give it a moistureproof lining and coating, and also to sterilize it. After the sterilizing, the cones move immediately to the filling and closing assembly.

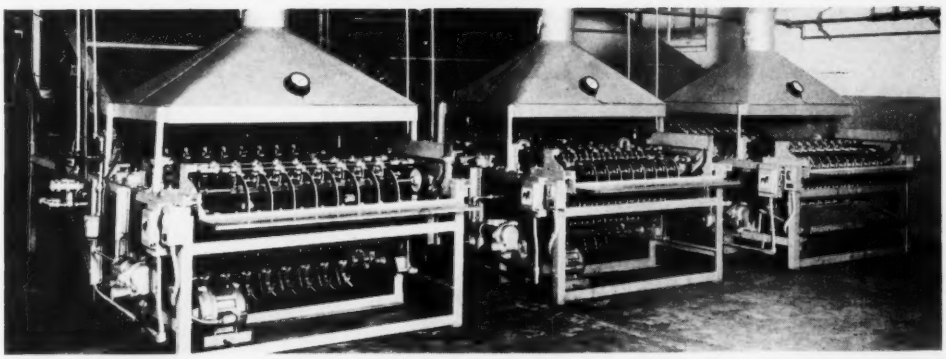
Normally these containers are made directly on the packer's premises. In this way, traffic movement of unfilled containers is eliminated and the opportunity for contamination is minimized. Special moisture-resistant or fruit-acid resistant liners may be laminated into the blanks if desired. Dairies and similar packers of priority types of foods may obtain tinned metal strips which are crimped across the top. Otherwise plastic strips or the thermoplastic sealing serve to meet the requirements. Thus, a wholly non-metal container is available.

Production possibilities range up to 1800 half-pint containers or 1500 quart-size containers per hour. These containers and equipment for their manufacture in England are said to be packing coffee satisfactorily.

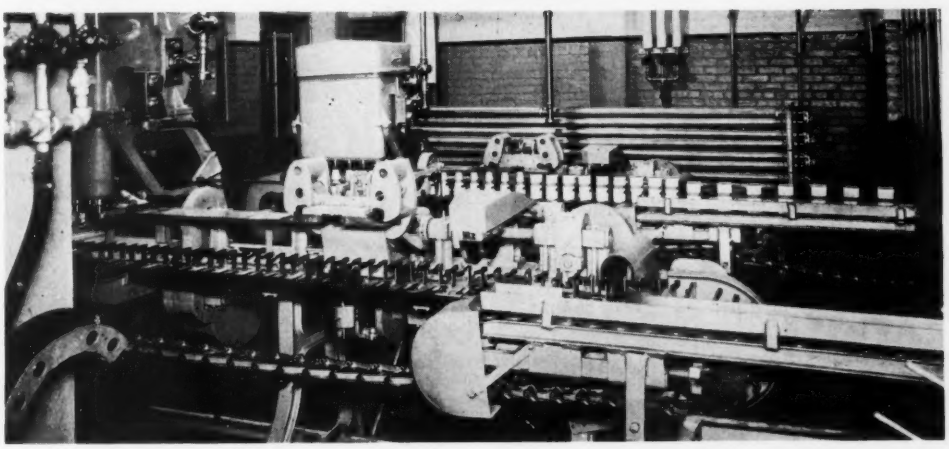
Credit: Container manufactured and custom packed by American Sealcone Corp., 1911 Park Avenue, New York City



4. These cone-shaped containers are machine - formed—starting with die-cut printed blank the operator is inserting. They emerge fully formed after one revolution of the mandrel. Bottom is spun on and the container ejected by a blast of air.



5. Row and row of the containers are dipped in a special paraffining bath at 180 deg. F. in the equipment shown here to give them moistureproof lining and coating. They dry instantly and are then ready to go for the filling operation.



6. Equipment for filling and sealing the containers. One of the advantages pointed out is that the package is untouched by hands from the time the container enters the dipping bath until it is sealed.

PACKAGING PAGEANT

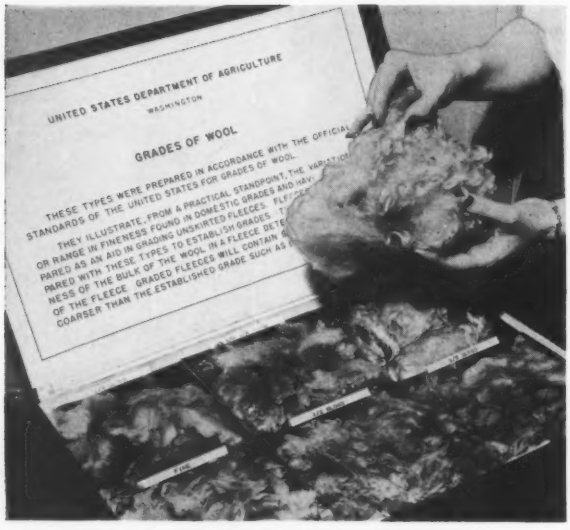


1 Of sturdy die-cut construction, the attractive hexagon-shape corrugated box for Damstagg cookies, product of Sterling Cake Co., Inc., is a wartime replacement for a former tin container. Although widespread adoption of this type of package is limited for the time being by increased need of war goods manufacturers for corrugated shipping boxes, cost advantages revealed in this application are substantial enough to have the company seriously consider retaining the present box in the postwar period. It is 33⅓ per cent lighter in weight than the former container and is shipped flat, thus effecting savings in shipping and storage. Designed and made by The Hinde & Dauch Paper Co., Sandusky, Ohio.



2 Paper can for Listerine tooth powder, designed to replace the metal can, takes less shelf space although it is larger in content space than the former oval one. Walls of the container are laminated with three layers of glassine to protect the package surface, keep moisture out and flavor in the tooth powder. Label and directions for using the powder are clearly printed on the white ground in brilliant cadet blue. Made by F. N. Burt Co., Inc., Buffalo.

3 Aiming at renewed public interest in wheat products and cooked cereals, New Richmond Mills is introducing on a national basis a cereal product, New Rich Rolled Wheat. To assure retention of nutritive elements and extended keeping quality for the product, the cereal is first packed in a special, sealed inner bag. Then it is packed in a sturdy, colorful, outer carton. Bag by Brown Paper Products Co., Libertyville, Ill. Carton by Ahdawagan Box Co., Wisconsin Rapids, Wis.



4 This is the new wool package which has been developed to serve as a blueprint for grading wool in accordance with easily recognizable government standards. Designed by the Wool Division, Livestock Branch of the Agricultural Marketing Administration, the package is a large black box containing six samples of grease wool that conform to Department of Agriculture specifications for grade. With the aid of the box of samples, growers can for the first time send wool to the mills that is graded exactly in accordance with these standards, thereby simplifying the selling procedure.

5 Kendall Refining Co. has adopted this attractive quart glass container, shown on the left in the photo. Former metal can is on the right. The company's 2000 Mile Oil now comes in this glass jar that is safety sealed and is made tamper-proof. The oil-proof seal is glued over the container opening when the jar is filled with oil at the refinery. The jar may be used later for home-packed foods. Jars by Knox Glass Bottle Co., Knox, Pa. Seals and closures by Ferdinand Gutmann & Co., Brooklyn.

6 Principal reason for creating the new wrapper for Luer's sliced bacon was to offer the housewife a package from which the strips of bacon could be easily removed and at the same time give adequate protection to remaining contents. Admission of light rays which discolor the fat is lessened because of opacity of package. Bacon can be easily removed because it is laid out flat and remains that way. Although completely covered, the top of the package adheres to the bacon but may be quickly opened and closed. Package is made from a lamination of bleached greaseproof and sulphite paper. Wrapper by Western Waxed Paper Co., Division of Crown Zellerbach Corp., Los Angeles, Calif.



5



6

7 Labels for bottles of Luxor's body lotion have been designed to match those on favorite floral scents—American Beauty, Apple Blossom and Carnation. Bottles are found, easily gripped in the hand and have closures of plastic material. Bottles by Carr-Lowrey Glass Co., Baltimore. Closures by William Braun Co., Brooklyn. Labels by Magill-Weinsheimer Co., Chicago.



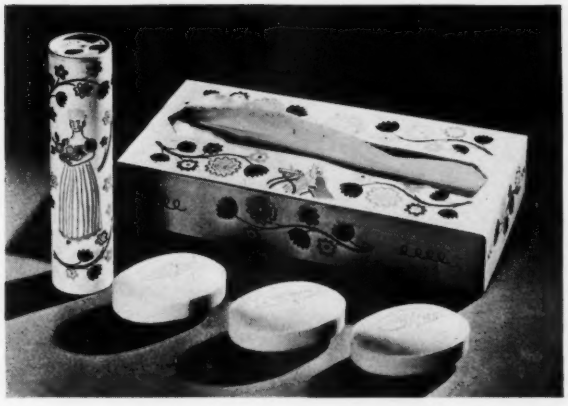
7

8 Old (left) and new boxes for Humming Bird Hosiery. New one is made for six pairs of stockings instead of the three pairs that have grown to be almost universal. Larger box is the response of the company to the government's request to simplify packaging and to follow a continuing policy of reducing costs with no loss in quality of merchandise. Designed by Georges Wilmet. Box by Star Box and Printing Co., Chattanooga.



8

9 Old Spice Tissue box combines full value in toiletries with a utility container. It serves a two-fold purpose. The box itself will serve as a cleansing tissue dispenser after the contents—3 bars of soap and the talcum powder—have been removed. Can for talcum is made of paper with a paper dispenser top.



9

10 Bright attractive labels plus the pleasing product color of Blue Seal Smooth Whipped Salad Dressing in transparent glass jars make a package which has customer appeal. Production lines in the packing plant may be standardized by the use of the standardized glass containers. Blue Seal French Dressing comes in an attractive table service bottle with screw-on closure. Jar and bottle by Owens-Illinois Glass Co., Toledo. Labels by U. S. Printing & Lithograph Co., Cincinnati. Closures, Phoenix, Metal Cap Co., Chicago.

10









You can brush up on military insignia from the back of "Wheaties" and on "Kix" you can find out how to act in an air raid.

War messages on packages

More and more manufacturers are devoting display space on their packages to the presentation of war messages. The value of such effort is difficult to measure by any tangible yardstick, but the constant reminder of such messages wherever the packages are sold or used undoubtedly is an excellent morale builder for the duration.

Most common message, of course, is that of the Minute Man carrying the message to "Buy War Bonds," but the subjects presented on box covers and bottles include everything from "What to do in an air raid" to information on insignia of the armed forces.

General Mills, for instance, have devoted the entire back panel of their "Kix" cereal package to the air raid subject. The treatment is designed to appeal to children, since it is announced by the Lone Ranger Victory Corps. There are four illustrations in full color. The first one gives a warning to "Keep Cool. Not to lose your head." The second bit of advice is to "Stay at Home. The Safest place is at home. If you can't be at home, make for shelter." Third illustration and explanatory copy tells you to "Put Out Lights." Fourth warns you to "Stay Away from Windows."

On their "Wheaties" packages, General Mills are presenting a series of games for children called, "Fun at the Breakfast Table." On the back panels is a series of four quizzes on whether you can designate various insignia of the Army, Navy, Marines, etc. Each insigne is numbered. By turning the box the other way round, you have a corresponding description telling which each insigne is.

Hugh Hutchinson, president of The Greenbrier Dairy Products Co., Beckley, W. Va., is credited with the idea of incorporating service poster designs on the side and back panels of his milk cartons.

Three separate cartons were designed, each for a different branch of service—Army, Navy, Marine Corps. The main panel is used by the dairy to present company name, grade of milk and other necessary copy, but even the front has a "Buy Bonds" message on the pull tab. The other three panels are devoted entirely to service promotion. Even the WAACS are included on the panels.

Posters were used in designing the cartons. They were distorted and revised slightly in layout to fit the milk container panels. These cartons were brought out before the restriction of the War Department on voluntary enlistment, but the Greenbrier people feel that they now serve the purpose of selling a particular branch of service, when men have a choice after induction.

Grocery bags have also become vocal. Hundreds of millions of its kraft grocery bags are carrying government-approved messages from wartime agencies into millions of kitchens. The maker of these bags expects to print up to 10 per cent of its grocery-bag production with government slogans.

Designs and slogans already approved for these victory slogan bags include: a sketch of a Sphinx with the wording, "Silence—Take a tip from the Sphinx. Don't talk about ship movements. Don't talk about (*Continued on page 102*)



These milk cartons promote the various services in the armed forces. There are three separate cartons, with a war message on three sides, besides a "Buy Bonds" appeal on the pull tab. One side is reserved for brand name.

War Head



THE metal tobacco can was an early casualty of this war. Next to go were the metal tops of tobacco jars.

Tobacco and cigar packers needed jar closures, made of non-strategic materials, that would perform all of the functions of their war-captured metal predecessors: They had to lock on to standard lug finish glass jars, had to be strong enough to withstand many re-sealings, had to keep tobacco properly moist.

Once again Burt developed and produced the answers. They are multi-ply paper caps that fit as snugly over the jar tops as did the former metal ones. Projecting lugs are die-cut of a very strong fibre board. They actually lock the cap to the jar.



This is one of a series of contributions Burt has made to the packaging of American goods in wartime. Others will be shown in this space in subsequent issues.

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

F. N. BURT COMPANY, INC.

500-540 SENECA STREET, BUFFALO, N. Y.

NEW YORK CITY - PHILADELPHIA - BOSTON - ST. LOUIS
ATLANTA, GEORGIA - CHICAGO - CLEVELAND - CINCINNATI -
NEW ORLEANS - MEMPHIS - MINNEAPOLIS - KANSAS CITY

DANVILLE, CALIFORNIA (Near San Francisco)
A. G. Spilker, P. O. Box 126, Telephone: Danville 27

LOS ANGELES: 1709 West 8th St.—Telephone EXposition 0178

CANADIAN DIVISION: Dominion Paper Box Company, Ltd.
469-483 King Street, West, Toronto 2, Canada


Preferred
~~Accepted~~ by
VAPOR VACUUM SEALED
TO INSURE FRESHNESS
Buy
PEAS
IN Duraglas



From now on, more and more foods will be packaged in sparkling Duraglas . . . because Mrs. America is learning that foods can be bought economically, selected carefully, stored conveniently in Duraglas containers. These advantages Mrs. America will continue to look for tomorrow. *Because she likes the way Duraglas serves her today.*

OWENS-ILLINOIS
GLASS COMPANY TOLEDO, OHIO

Cellophane helps Bayer save 2½ tons of metal per day



THAT'S the war contribution of this new "Cellophane Victory Package" for the famous Bayer aspirin.

Bayer is relying on Du Pont Cellophane to protect its product from moisture and contamination by dust and germs.

The adoption of this new metal replacement package for a product having such a wide public acceptance is a strong endorsement of Cellophane's ability to do both a protective and a merchandising job.

If you have a metal replacement problem, let us work with you. E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington, Delaware.

DU PONT
REG. U. S. PAT. OFF.

Cellophane

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY!

MODERN DISPLAY

Two kinds of sunshine get together

Proof of the effectiveness of successful related item selling by means of related item displays has been demonstrated in a "pilot store test" conducted in a New York City grocery store. A 625 per cent increase in the sale of Sunshine Sugar Honey Graham Crackers plus a 50 per cent increase in the sale of Florida oranges were the results reported after a week's test of the combination display feature.

Tart orange juice and the sweetness of the graham cracker complement each other and make a very palate-pleasing pair. The Florida Citrus Commission and the officials of the Loose-Wiles Biscuit Co. got together and planned a sales and display campaign around the two—orange juice and graham crackers. The sale is featured currently in stores throughout the country and is built around the theme, "Sunshine Snack." Advertising and promotional copy carry the selling line, "Extra energy plus vitamin C." The line was chosen because it emphasizes two of the most important things about the products and because it also points up the present day stress on the maintenance of good health. The nutritive value of the "extra energy" to be obtained from the graham crackers and the vitamin C in the orange juice make a snack combination for the whole family—babies, children and adults.

Shortage of sugar and jams has caused homemakers to turn to other products which can take their place. Graham crackers might be a very good choice and the marketer perhaps would think of giving the children these crackers for their home-from-school meal, but she is surely more certain to buy them if she finds her grocer displaying the packages. By showing a tumble-bin of oranges in the display arrangement, she has her children's snack all planned for her and it is easy to pick up a carton or so of graham crackers and a quantity of oranges. Because the combination is of particular benefit to growing youngsters, special banners and posters have been created which illustrate how wholesome and enjoyable snacks for children may be made with oranges and crackers.

Full color banners, posters and price cards are furnished all merchants during the period of the campaign by the Loose-Wiles Biscuit Co. and the Florida Citrus Commission. Banners and posters have pictured a number of different ways in which the Sunshine duo may be served together. Merchants also receive a list of suggestions for creating attention-getting sales lines for use with their displays. Aisle, window and counter arrangements are used, but few of them vary from the mass treatment. Price cards are given prominent placement since the items are popular-selling products.

1. Patsy D'Agostino, president of New York State Retail Grocer's Assn., tells J. Henry Rich, Florida Citrus Commission, and Gene Flack of Loose-Wiles Biscuit Co., about the success of a test "Sunshine Snack" sales display in his store. 2. Type of posters and price cards used for the campaign.

1



2





1



2

1. *Combination consumer package and display carton.* 2. *Mass display for counter.*

Specific jobs displays can do

*by Edward T. Sajous**

Display can do many jobs, but asking one piece or one series of pieces to do too many jobs all at the same time simply results in failure to make any one point or get across any one well-clinched message.

The piece frequently emphasizes equally a number of major elements including, perhaps, sale of a premium, suggestion of related items, emphasis on a prestige note and putting over a strong bargain price message; as a result, no single job is clearly and decisively accomplished and the material simply helps add to the unfavorable testimony against display to the discomfiture of all concerned—advertiser, retailer and display manufacturer.

In other words, the problem should be handled with a "from the inside out" attitude rather than from an "outside in" approach. That is to say, creation should be based upon visualization of a definite objective, thorough analysis and recognition of all the factors in the problem and then precise planning and careful arrangement for use of elements specifically designed to attain the definite objective or hit the particular target set up.

What, then, is effective procedure in successful display creation by the "inside out" method? As one point-of-purchase advertising authority put it some years ago, "A valid sales idea is the starting point for display planning." The following list of nine specific objectives, with selling points of display emphasis classified under each for reference, is offered as a guide in production of accurately aimed point-of-purchase advertising, planned to fulfill gauged needs:

(1) To gain attention

Use of dimensional effects.
Emphasis on sheer beauty and quality atmosphere, frequently with color.
Use of highly unusual, bizarre, spectacular effects—color, motion, lighting.
Life-size figures, human interest.
Bold poster treatment.
Exaggerated size packages or products.
Huge, mass effects by use of reproductions or actual packages or products.
Smart, humorous, "gag-line" type copy in conversation balloons.
Cartoons.
Reproducing packages or products in human figure forms.
Use of well-known, popular trade character.
Animal figures—cartoon-type if appropriate.
Emphasis on trade mark, slogan, testimonial line or letter.

(2) To use atmosphere as principal feature

Institutional story presentation.
History of company, product.
Celebration of an anniversary.
Presentation of story with scientific emphasis and color.
Building scientific background for product.
Use of humor.
Building quality atmosphere, appeal.
Developing holiday, seasonal appeal, background.
Style atmosphere.
Building gift theme.
Appetite appeal—featuring prepared dishes, etc.

* Executive Secretary, Point of Purchase Advertising Institute, Inc.

Sports background, using National sports, etc.
Economy, price, bargain appeal.
Specific group appeals—housewives, munitions workers, debutantes, secretaries, etc.
Illustrating product in home atmosphere.
Human interest.

(3) Coordination with advertising, etc.

Tie-in with main advertising theme.
Coordination with magazine, newspaper, radio advertising.
Continuity of package color scheme in display.
Consumer contest tie-ins.
Premium offers.
Use of newspaper comic-strip advertising characters in display.
Use of screen, stage, radio, sports stars.
Tie-in with news events—local slants on national new happenings.
Coordination with special sales program—deals, etc.

(4) Helping the consumer

Easier shopping with product dispensers—floor, wall, counter, table, etc.
Methods helping in correct selections.
Dispensing advertising material—educational.
Dispensing coupons, offers, contest announcements.
Dispensing samples.
Convenience in handling merchandise by permitting customer contact with products, materials.
Self-demonstration—offering customer something to do in action related to product.
Offering customer something to do with action unrelated to product.
Recipes, reminders, directions.

(5) Featuring the product in use

Emphasizing cost of product manufacture, operation, etc.
Bring out uses.
Illustrate how to use.
Suggest uses with other items. (*Continued on page 104*)

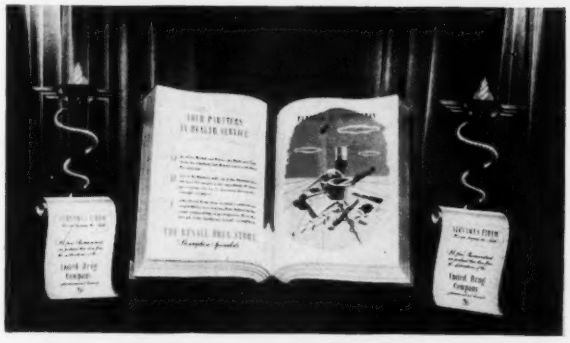
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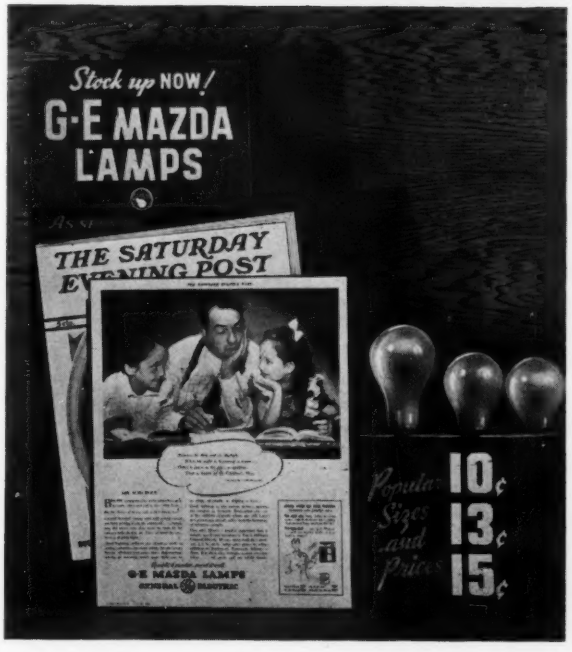
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3. ***Character trade marks have always been one of the most valuable means of keeping alive brand name. This Griffin doll character is emphasized in this unit.*** **4.** ***Related items are built into a window arrangement with a centerpiece highlighting Fletcher's Castoria. Idea behind the display is the proper care of children.*** **5.** ***Institutional type of display is this with the open pharmacist's book and the medical symbols.*** **6.** ***G-E Mazda lamps tie in this counter dispenser with national advertising.*** **7.** ***Virginia Dare trade mark character makes a three-dimensional unit.***

7



Display Gallery



1 National Committee on the Observance of Mother's Day, with offices in New York City, offers retailers this striking poster for use in windows and in their stores. Because there has been a tightening up in the manufacture of short-lived holiday and specialized pieces which companies formerly used, many retailers and producers will welcome this poster. "Aside from its purely altruistic purpose, Mother's Day offers retailers a splendid opportunity to obtain additional volume that would not ordinarily accrue," Irving K. Edwards, executive director of the Trade Promotion Division, points out. The campaign to insure the nationwide observance of the day was opened with the presentation of the official poster (shown in the photo) to Mrs. Edward V. Rickenbacker, wife of the famous aviator. The poster was painted by McClelland Barclay, nationally known illustrator.



2 Sales slant on the combination, multiple-unit piece for windows for Vitamins Plus, product of Vick Chemical Co., is the fact that everyone on the home front must keep healthy and fit and people are able to do so by supplementing the diet with the proper vitamins. Six pieces make up the complete display set. A miniature of the central card is furnished for use on the drug and toiletry counters. John Holmgren, well-known illustrator, painted the display and it has been lithographed in full color. Centerpiece shows package prominently. Designed and made by Hussey-Woodward, Inc., New York City.



3

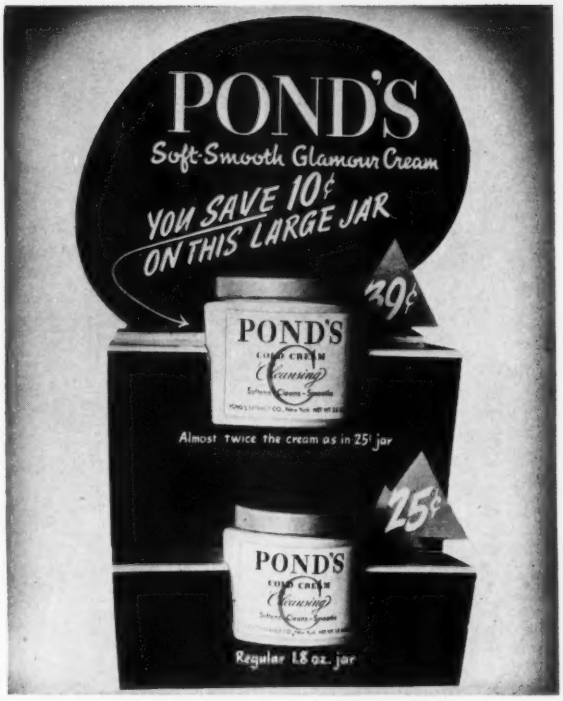


4

3 As a part of their service to bars, Calvert salesmen are distributing this "public service" sign—a simulated wood display—urging moderation in drinking. Appreciative acceptance on the part of retail outlets is greeting Calvert Distillers Corp's. free offer of the sign, officials state. Distribution is being done on a nationwide basis and the signs are appearing on back-bars and tavern walls all over the country. The sign is one of a series of non-commercial pieces and carries forward the corporation's policy of giving helpful service keyed to present day conditions. Made by Leon Berkowitz, Philadelphia.

4 The V-Mail letter a recipient gets is but a miniature of the original, as shown by this lithographed unit for Sheaffer's V-Black Skrip. It is a single-plane, die-cut card, suitable for either store window or counter. Coloring and perspective are used so effectively that there is an unusual illusion of depth and numerous planes. Made by The Forbes Lithograph Co., Boston.

5 Here's Pond's newest counter display, just introduced to the trade. Handsomely colored in fresh green and red, it is specially designed to show the economy of a medium size jar of the cold cream over the smaller size. It is an ideal counter piece for the retailer who feels that the economy size of Pond's entails too large an outlay of money for his trade. Display by Oberly & Newell Lithograph Corp., New York City.



6 In these days of changing news and changing weather, say the makers of Vimms, it's a good thing to fortify yourself. This is no time to let the weather get the better of anyone and to cause absence from work—most of which is today concerned directly with winning the war. The poster suggests that everyone keep feeling well and guard against unnecessary sickness by using Vimms. These are the points that the poster emphasizes. Made by Einson-Freeman Co., Inc., Long Island City, N. Y.

7-8 Sealtest hanging mirror is a unit that hangs from the ceiling over the counter and holds interchangeable inserts. As an eye-catcher a tilted mirror is arranged so that the shopper can see her face reflected in the sign. Mirrors have always been found to be one of the most effective means of attracting attention. The unit is made of wood and finished in lacquer. Another display used by Sealtest is a milk aisle piece. It is made of wood and finished in lacquer and is almost six feet in height. Idea behind the display is that it provides the grocer with a fixture to be used in merchandising milk together with many different related items. There is a frame on top of the fixture which permits the insertion of timely messages. There two pieces promoting Sealtest help the storekeeper to set apart the dairy section. Units designed and made by Kay Displays, Inc., New York City.

8



7



6



How to keep your Wrapping Machines at top efficiency

Scarcity of manpower places a premium on every labor-saving machine . . . Here's what you can do to insure steady production from your wrapping machines:

1 — *Place the responsibility* for proper care on *one* person — preferably your most experienced mechanic or maintenance man.

2 — *Cleaning.* Packaging machinery should be cleaned regularly. Luke warm water and soap are recommended. Live steam or air may blow particles into the mechanism. Don't use a screw driver or similar tool to remove foreign matter—it may damage some part of the machine.

3 — *Lubrication.* In some cases packaging machines require specified lubricants in certain spots; be sure the right ones are used. Write us for data if in doubt. Some lubrication points on the machine are not so easy to get at; see that they are not neglected. Check for plugged oil holes which prevent a proper flow of lubrication.

4 — *Keep the machine in proper adjustment.* All packaging machinery requires adjustment occasionally, and some types of machines are more delicately adjusted than others. A properly adjusted machine runs more smoothly, saves material and makes a better package.

WHEN IN DOUBT, consult us — we would rather help you prevent break-downs than to repair them. We will try to have our service men available when absolutely necessary.

Our Wrapping Machine Procurement Service

places those in need of additional wrapping machines in touch with those who can sell or lease machines of our make that will meet the requirements of prospective users. We make no charge for this service.

List idle machines with us

If you have a machine or machines of our make that you can spare at the present time, we suggest that you list them with us. Please state type of machine, the kind of wrapping it does, and our factory number.

PACKAGE MACHINERY COMPANY, Springfield, Mass.
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PACKAGE MACHINERY COMPANY

Over a Quarter Billion Packages per day are wrapped on our Machines

Dehydration to prevent corrosion

There are two methods of packaging metal parts, aircraft engines, machine guns and many other military essentials for shipment—the old method and the new method, known in military parlance as Method I and Method II.

Method I is the one which coats with grease, wax or other slushing compounds, those surfaces that can be reached in the hope that no moisture is adsorbed under the protective coating and also that the other parts will not be corroded by salt air or other moisture-laden air in transit or storage.

Under this "old" method, everything so packed had to be dismantled, de-greased and re-assembled before it could be actually used. In the case of machine guns and similar equipment, the time required for such a procedure could mean the success or failure of a military operation.

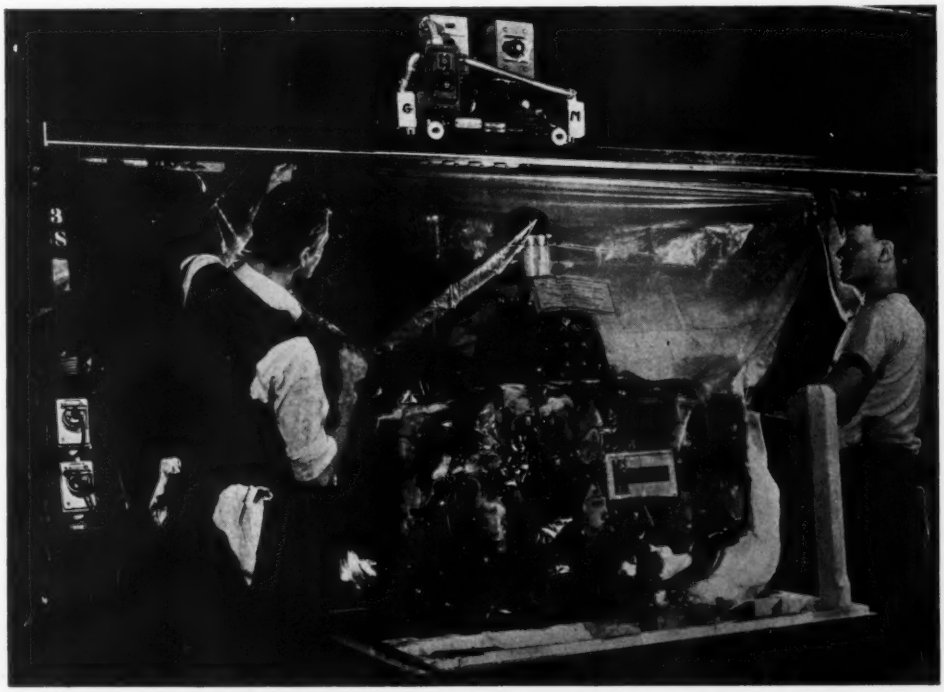
Method II makes such parts immediately usable upon unpacking. It's known as the dehydration method and makes use of moistureproof wrappings and a highly absorbent chemical known as "silica gel."

Army and Navy specifications covering preservation and packaging of metal parts and equipment provide that Method II be used in packaging of all mechanical and electrical equipment which represent assembled or partially assembled units, equipment which is to be put into use without previous disassembly, equipment to which cleaning prior to use in the assembled state is undesirable because of time or equipment needed, parts or equipment which may be harmed by solvent bath or vapor de-greasers and parts and equipment ordinarily preserved in accordance with the procedure of Method I, but where the nature of the finish or other considerations make such handling hazardous to the part.

But packaging by Method II goes beyond this. It is also being used to protect the interior of such large shipments as entire airplane fuselages, tanks and similar tools of war.

In the case of tanks, all windows, doors and other possible adits for the salt air to be encountered in overseas transit are closed by taping, covering with a more-or-less moisture-proof "skin," or otherwise sealed, and the interior dehydrated to prevent corrosion of delicate instruments, machined parts and vital military installations. Fire control instruments are among the many essential war tools that are shipped by this method, too, although there isn't much that can be said about them now.

The basic principle involved in protecting this materiel by Method II is that where no moisture is present, corrosion cannot take place. It might be pointed out that corrosion will take place even though liquid water is not apparent on



1. *Preparing airplane engine for shipment. New method eliminates time-consuming grease and degrease methods. Bags of silica gel, a dehydrating agent, are placed about cylinders and other parts. Entire engine is then enclosed in envelope of transparent rubber hydrochloride film, heat sealed with traveling sealer to make it moisture - vaporproof and airtight.*

the surface. If the humidity of the air surrounding the part is even average corrosion will take place readily. If the moisture content of the air surrounding a part can be reduced sufficiently low, the possibility of chemical action, which is the basis of corrosion, is entirely removed. Not only must the moisture in the entrapped air be removed, but also any moisture which may possibly diffuse into the package through the wrappings must be likewise eliminated before it can promote corrosion. This removal is accomplished by use of a dehydrating agent known as silica gel. The application of this material is extremely simple. Parts are coated with their normal operating lubricants or left completely bare and cloth bags containing the proper amount of silica gel are included with the parts as they are packaged.

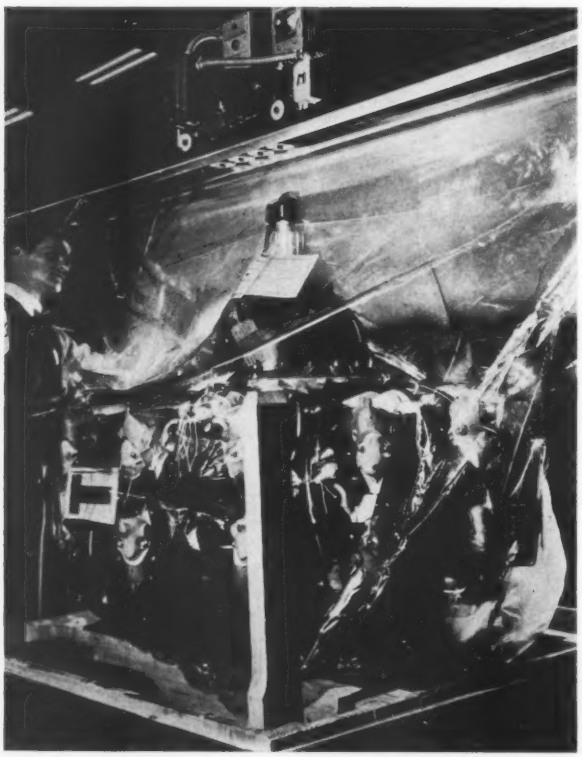
Silica gel is a chemically inert, granular dehydrating agent of cellular structure that is capable of taking up and holding more than 45 per cent of its weight in water. Its action is physical (surface adsorption and capillary attraction), not chemical. Even when saturated it looks and feels perfectly dry—under no circumstances will it liquefy, become sticky or deliquescent. It remains clean and in its granular form. It is chemically inert, will not attack metals, alloys or other materials. It does not give off harmful or corrosive compounds and it imparts no odor.

Sealed within a container, silica gel, now being made under several trade names, quickly reduces the relative humidity of the enclosed air as the moisture is drawn by adsorption into and held within the pores of the crystals. Each granule of the dehydrating agent is made up of a maze of microscopic pores, each pore smaller than the wave-length of light. Every cubic inch of granular silica gel has a total pore surface area of approximately 7,500,000 square inches. And, as each microscopic pore is capable of taking up and holding its share of moisture, the tremendous adsorptive capacity (45 per cent of its weight) becomes understandable.

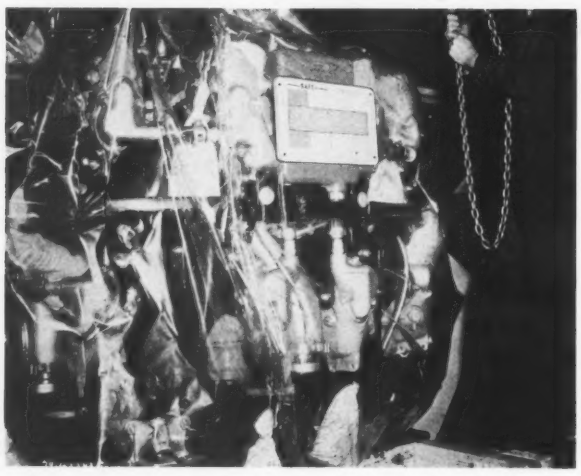
The use of silica gel for dehydrated packaging of machined parts, machine guns, airplane engines and similar parts, previously packed under Method I, was pioneered long before the current war, in which it is being used so successfully. It is an example of "forward-looking" on the part of industry and the military.

In 1938, the manufacturers of silica gel, working with Pratt & Whitney, began to study the use of a dehydrating agent in shipping metal products. Silica gel had been used previously for a number of purposes such as the dehydration of refrigerants in mechanical refrigeration systems, the drying of air and gases in places where a dehydrating agent was

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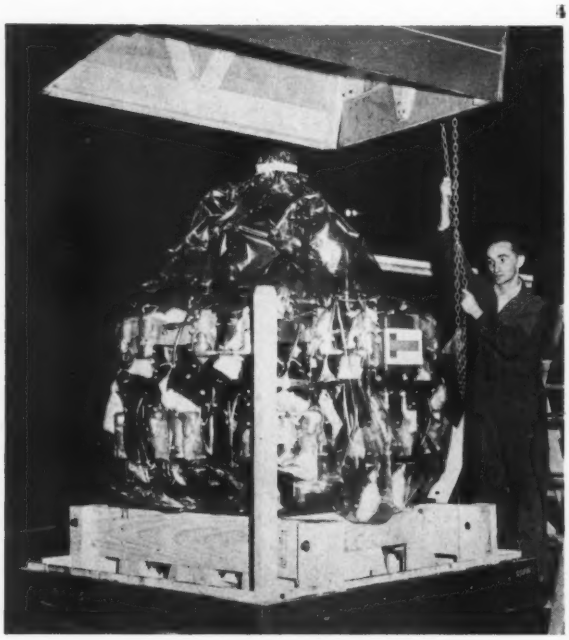


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2. *Start of the operation as transparent envelope is being put on and seal started.* **3.** *Wrapped engine showing humidity indicator card which tells at a glance whether moisture is entering the package.* **4.** *Wrapped engines are shipped in wooden cases. Here one is being opened, showing engine ready to be stripped of wrappings ready for use. Dehydration method, compared with grease method, saves up to 50 hours per engine in getting it into service where the equipment is to be used after the shipment.*

4



needed. No one had thought very seriously of using it in the packaging field.

After some experimentation with the use of silica gel for a dehydrating agent in storage and packaging, the maker of the material went to the Naval Aircraft Factory at Philadelphia with its findings. Here the work was reviewed, further investigated and coordinated with the Army Air Corps at Wright Field. Details for usable specifications were worked out which were issued by the Army-Navy Aeronautical Board for Method II packaging.

A vital part of the "package" utilizing silica gel as the dehydrating agent is the gadget known as the "humidity indicator." It's a simple indicator, as indicators go, but it tells whether the silica gel is doing its job and whether the moistureproof wrapper is doing its job.

The indicator is merely a transparent envelope, mounted on a card. The envelope contains silica gel crystals impregnated with cobalt chloride. When the moisture is less than 20 per cent, relative humidity, the crystals appear to be a clear, dark blue. At 20 or 30 per cent, they begin to fade from their "blueness" and take on a pinkish tinge. When the moisture inside is around 40 per cent, they become definitely pinkish and from that point on pinker and pinker.

Various recognized authorities such as the Bureau of Standards and the Naval Aircraft Factory have established 30 per cent relative humidity as the dividing line below which no corrosion takes place. This is the reason why the line is drawn through the indicator, at the 30 per cent point, between "safe" and "unsafe."

Virtually all airplane engine manufacturers are now using the Method II packing procedure for their products—including parts—and U. S. Army Ordnance specifications call for this method to be used for protecting many items.

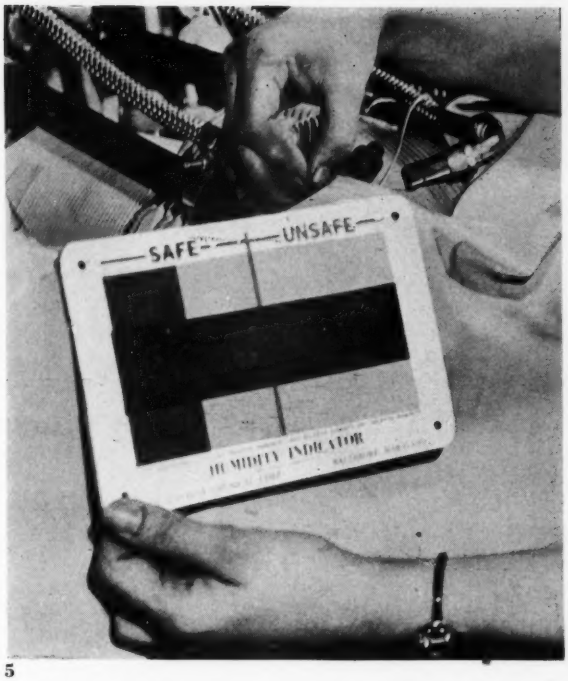
The moistureproof bags in which these parts and products are sealed are being made by numerous manufacturers. Not only are wholly transparent wrappings used for sealing out the moisture from silica gel-protected parts, but other types of films are being used. Some are laminations of kraft (waxed) foil, glassine and cellophane. Some of them are opaque, but all are manufactured for the purpose, with a "window" fixed so that the humidity indicator may be seen through a similarly placed aperture in an outside covering, which is usually a wooden box (in the case of large packages, such as airplane motors), or a carton, used for smaller parts.

Opaque films made from laminations of waxed kraft, foil and cellophane are used most widely for packaging of small parts, while rubber hydrochloride sheeting has been found very effective for the packaging of large units, especially where such parts are bolted down.

Engineers have disclosed that engines may remain as long as eight months in rubber hydrochloride coverings before the humidity indicator arises to a point where the engine might be endangered by rust or corrosion. When the card indicates danger is near, the bag is simply opened for replacement of the silica gel sacks, another air extraction—and the bag is sealed again.

Bags of the rubber derivative film have been worked out for each type and every size of airplane engine. Composite envelopes have been designed to fit two or more engines at one time.

In airplane-engine plants, the envelopes are supplied already heat-sealed at both the side and bottom edges. The top is left open to receive the engine. The envelope is folded down from the top for a certain distance to facilitate the application of the engine.



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5. ***Humidity indicator is an envelope with cellulose acetate transparent window and contains silica gel crystals impregnated with cobalt chloride. When humidity is low, crystals are blue; when high, they turn pink. Color of crystals at 30 per cent relative humidity is the dividing point between what is regarded as "safe" and "unsafe."***

The envelopes may be applied to the engine by one of two methods under government specifications. They may be placed in the well of the shipping case or engine stand, or by the other method may be applied while the engine is suspended from a hoist. After being secured in place in the latter method, the envelope is then carried with the engine to the shipping case.

After being applied to an engine, the envelope is secured to it by gaskets or washers affixed to the film and through which the engine mounting bolts are inserted. The bolts are then tightened down. By this means, the envelope is securely held to the engine without injury to the envelope itself. Before the envelope or bag is applied, of course, the engine has previously been prepared with silica-gel plugs in place of the spark plugs and the crank-case sump plug. It is at this time that the small sacks of silica gel are distributed around the periphery of each engine.

Also before the envelope is applied, the indicator card is attached to the engine in a vertical position at a point where it may be observed at all times through a special trap door in the shipping case where the humidity indicator is located.

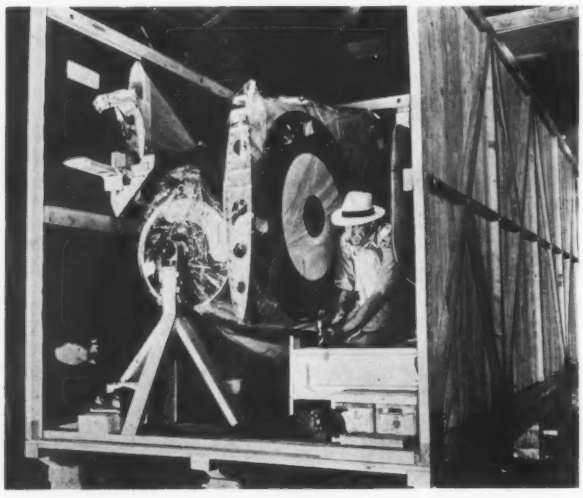
After the envelope is unrolled upwards over the cylinders so that it extends above the engine, or the forward end of the propeller shaft in the case of a radical-type motor, it is ready for sealing.

Army and Navy specifications recommend that heat-sealing be done with an iron having a rolling contact with the film. In emergencies, however, a satisfactory seal is obtainable through use of a flat iron or hot plate, if paper is used as an insulator between the iron and the film.

Various types of heat-sealing equipment have been de-







veloped for sealing envelopes around airplane engines. Satisfactory results are being obtained also with a hand-operated sealer which was constructed especially for heavy-duty continuous service. In addition to being suitable for its original purpose, this sealer is likewise convenient for sealing smaller bags and for patching.

Heat-sealing of engine envelopes by the traveling sealer is accomplished in the following manner. The opening or top of the envelope with the engine in it is supported above the engine and held in place by clamps. Care must be taken to insure that the top edges of both the back and the front panels of the bag are held evenly together.

The automatic sealing unit travels across the width of the opening on a framework erected for this purpose. Then the two edges of the film are sealed together by passing through heating and pressure rollers. Before a complete closure is effected, a portion of the remaining air in the envelope is removed by vacuum or hand pressure, thereby reducing the volume of air still inside the bag to be dehydrated.

If a hand-sealing iron is used, the seal is made by placing the two edges of the bag evenly together on a flat, smooth surface board or table which can be placed astride the engine in the form of a platform. The surface of the board or table is covered with blotting paper, rubber flooring, linoleum or a similar substance.

Inexperienced workers are showing the same facility in learning this method of sealing as they did on peacetime commodities sealed in rubber derivative film. With their thermostatically controlled sealing irons, they learn quickly the amount of pressure required and the correct operating speed. The sealing heat ranges from 325° F. to 350° F.

After the bag is sealed around an airplane engine, the excess film above the engine is gathered in carefully by folding in "concertina" fashion and held in place around the propeller shaft with tape. This prevents excess movement of the film during shipment.

One advantage of rubber hydrochloride film for airplane engines, the Army and Navy have discovered, is in the fact that should occasional tears or puncture accidentally occur in the envelopes during application or shipment they can be repaired easily by heat-sealing a piece of the material over the torn area. If no extra material is available for patching, the exclusive properties of the film make repairs possible by merely overlapping and fusing the torn edges of the tear or puncture. Rubber hydrochloride film used for airplane engine bags is of an especially designed thickness for this purpose. It is made by laminating two lighter gages of the film of a type designed to furnish maximum resistance to transmission of moisture vapor and to puncturing and tearing. As a result, this film is tough, flexible and easily heat-sealed.

That, in brief, is the simple story of dehydrated packaging under Method II, but the story lies deeper than that. The work done by the Army and Navy, once given the information on how silica gel and various protective films could be used, is an example of the forward-looking activities of one small group in the government which thoughtfully projected its plans into the future.

From its start, the entire (*Continued on page 110*)

6. Girl workers cover aircraft motor with transparent film. 7. Fuselage is also covered. 8. Complete assembly, including motor prepared with sealed-in dehydrating agent, is then put in huge wooden case ready for shipment.

Can paper replace jute bags for raw sugar?



1. *200-lb. paper bags can be filled on existing equipment.*



2. *Sewing head for paper was used for test shipment.*

For more than a hundred years, raw sugar has been shipped from Cuba to the United States in 325-lb. jute bags. The Cuban sugar industry now has, according to present estimates, just about enough jute on hand to cover shipments of the present crop. Cuba can no longer count on imports of jute from India. Therefore, sugar growers must be prepared to use other materials for bags.

A shipping test of 100,000 lbs. of raw sugar from Havana to New York via Florida was completed last fall to demonstrate the possibilities of using specially constructed heavy-duty multiwall, waterproof paper bags as a substitute for this purpose.

The test was undertaken at the suggestion of the Board of Economic Warfare in cooperation with WPB, the War Shipping Board, other United States government agencies, the Cuban Sugar Institute and Senor Manuel Asparu of the Central Toledo, Marianao, Cuba.

Further demonstrations of the use of multiwall bags for raw sugar were conducted in Cuba during December, when mill owners and technical representatives from the 150 mills on the island met for a three-day conference of the Technical Assn. of the Cuban Sugar Institute. Demonstrations were held at the Central Toledo and in the yard of the technical association through the courtesy of Senor Vilato, president of the association.

Large multiwall sacks for these tests and demonstrations, together with a sewing head specially designed for paper with which to close the bags after filling, were shipped to Cuba from the States. The bags used were 200-lb. capacity, the largest that can be efficiently made of paper and the smallest that can be handled on existing sugar filling equipment in Cuba. They were sewn open-mouth, 6-ply gusset type. The outside ply was made of water-resisting kraft. One of the inside plies of the bag was an asphalt sheet.

For the original test 500 bags (with a total weight of about 100,000 American pounds) were filled and sewn. The bags were suspended from a filling spout to allow the 200 lbs. of sugar, when dropped, to fill (*Continued on page 106*)

3. *After 20 minutes of spraying water did not go beyond first ply.* 4. *Bags can be repaired with tape.* 5. *Bags were tumbled from 25-ft. piles without breakage.*

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Quick-frozen foods, frozen in the package under pressure between refrigerated metal plates, necessitate the use of a rectangular package which is economical and saves space.

Quick-frozen food packs—past, present, future

*by A. B. Brackett**

The freezing of food products is no longer a new industry. For a great many years fish has been frozen and held in storage indefinitely. No great thought was given to the packaging of this product. It was glazed with water ice, which formed a protective coating on the fish and as the fish were later to be handled as a fresh product, the ice glaze was considered sufficient. Meat and poultry were later frozen but no study of packaging of these products was considered necessary. A few fruits, such as strawberries and cherries, were also frozen many years ago but again real packaging problems were considered unnecessary with these products. They were merely mixed with sugar to produce a syrup and packed in barrels or in tin cans holding 30 lbs.

Products frozen and handled as they were years ago were not considered on a par with the same fresh products and were sold accordingly as inferior products.

The advent of quick freezing completely changed the frozen food industry. It was found that the minute ice crystals formed by quick freezing produced a product that was equally as good in every respect as a fresh product of the same type, and the possibilities for the preservation of perishable food and the distribution of same over long periods of time were recognized. Now fruits and vegetables can be successfully quick frozen and used the year round, instead of only in the various seasons in which they are grown.

When these conditions were realized and successfully proved, real packaging problems confronted the packers of quick-frozen food products. The Birds Eye Co. was the pioneer in the field of quick freezing perishable foods and its method of quick freezing was to package the product in a container and freeze it under pressure between refrigerated metal plates. This necessitated a rectangular package and one that was no thicker than absolutely necessary to produce a commercial package and yet one in which the product could be frozen as quickly as possible.

A very large percentage of the perishable foods are consumed in homes, therefore one of the first packaging problems was consumer distribution and convenience. Protection of the product, over long periods of low temperature storage, against dehydration, oxidation, off flavors and retention of vitamins and other nutritive values was the subject of much laboratory research before a satisfactory package was obtained. Production problems also were deciding factors in the choosing of the final package. The package eventually chosen for consumer distribution had standard dimensions of 5 in. by 4 in. for the length and width, and a varying thickness from $1^3/_{16}$ in. to $1^7/_8$ in. to accommodate various products. The net contents of these packages varied from

* Manager of Carton Division, Frosted Foods Sales Corp. This speech, reprinted by special permission, was presented before the Convention of the Technical Assn. of the Pulp and Paper Industry, February 15–17, 1943.

10 oz. to 1 lb. This variation was necessary to provide uniform servings from each package.

A rectangular package not only proved most economical during the quick-freezing operation but also conserved vital space during transportation, in low temperature storage warehouses and in distribution of the products.

The results of all of the research work indicated that paper and paperboard offered adequate protection and more possibilities than any other material. Cartons made from firm, clean paperboard, treated to prevent discoloration and softening from the moist products and wet conditions were considered a satisfactory container. A cold water wax treatment appeared to be efficient, the least costly and did not have a tendency to impart a detrimental flavor to the product. The carton in itself did not provide adequate protection to the product during storage, therefore a protective liner for the carton was necessary.

It was found that a liner, to furnish proper protection to the product, must be impervious to water and have a high resistance to the passage of moisture vapor. Waxed paper liners were the best obtainable in the earlier days of quick freezing, but were not so impervious to moisture as desired and quick-frozen products could not be satisfactorily kept in storage for long periods of time when in liners of this description.

Regenerated cellulose was in its infancy in the early days of quick freezing and although comparatively costly it offered more promise than any other material available for a satisfactory carton liner or wrapper for frozen foods. The first regenerated cellulose used was brittle when subjected to low temperatures; the nitrocellulose coating, separated from the base sheet when in contact with wet products, had slightly objectionable odors and was not quite so impervious to the transmission of moisture vapors as desired. With all its apparent disadvantages it provided a liner, or a wrapper, that solved one of the most critical of the early packaging problems connected with quick-frozen food products. The objectionable qualities of the regenerated film has since been eliminated to such an extent that it provides the best commercial material available today for the preservation of quick-frozen foods.

The liner problem for adequately protecting quick-frozen foods presents a challenge to the paper industry. At the present time, the regenerated cellulose film provides the best commercial material available for this purpose, but it is not beyond the realm of possibility for the paper industry to produce a thin, strong, wet-strength sheet of paper that can be coated or treated so that it will have the necessary qualities for protecting quick-frozen foods. Although transparency is a desirable quality, it is not absolutely necessary now that quick-frozen products have been accepted by the public. The cost factor must be seriously considered in connection with this problem. A material for this purpose should have a moisture-vapor transmission rate of not over 0.4 gram per 100 sq. in. at 100 deg. F. and 95 per cent R.H. or 0.02 gram at 0 deg. F.

Thin transparent rubber base films were tested when they were first available commercially but were not considered satisfactory because they were very brittle at low temperatures and had a very objectionable odor. These objectionable features have since been eliminated and films of this type have been developed that are superior to any other film for protecting quick-frozen foods during low temperature storage, but unfortunately, these films are restricted for the duration of the war.

The following results of a test conducted with regenerated cellulose and transparent rubber base films are very interesting and indicate why the rubber base films provide slightly better protection to quick-frozen foods during long periods of low temperature storage than the other type. The product used for this test was chopped steak molded into units 5 in. by 3 in. by $^3/_4$ in. and each unit was individually wrapped. Twelve wrapped units were packed into a two-piece telescopic carton made from a cold water waxed board and the cartons of product were quick frozen. One half of the frozen individually wrapped units of chopped steak were removed from the cartons and placed on shelves in a 0 deg. F. storage room while the remaining half of the units were left in the cartons and stored in the same room.

Left. Paperboard carton with regenerated cellulose liner so far provides best commercial material available for protecting quick-frozen foods. Right. Carton overwrap of waxed paper is considered necessary to provide sanitary and tamper-proof package. Leakproof, heat-sealed bag with good elasticity is necessary for quick-frozen fruits packed in syrup.







Institutional packages of quick-frozen foods are packed in units of 2½ to 5 lbs. capacity for hotels, restaurants.

The moisture-vapor transmission rate of the regenerated cellulose films by the GFMVT method averaged 0.39 gram loss per 100 sq. in. at 100 deg. F. and 95 per cent R. H. and the rubber base films averaged 0.67 gram loss per 100 sq. in. However, the moisture vapor losses at 0 deg. F. for the regenerated cellulose film averaged 0.02 gram per 100 sq. in. while the loss for the rubber base film at the same temperature was only 0.005 gram per 100 sq. in. The results of these tests indicate that determinations for the transmission of moisture vapors at the higher temperatures are only relative and are not an exact indication of the protective values at low temperatures.

The test with the chopped steak was a practical example of the foregoing statement and also proved that the waxed carton provides a certain amount of protection against moisture loss during low temperature storage, which may happen to occur.

Weighings were made of the individually wrapped units of chopped steak monthly and at the end of 292 days in storage, the units wrapped in regenerated cellulose lost 5.1 grams each on the open shelf and 1.4 grams in the cartons, while those wrapped in the rubber base film lost 0.8 gram on the open shelf and there appeared to be no loss from those stored in the cartons. What little loss there was could not be measured.

A carton over-wrap of waxed paper was considered necessary to provide a sanitary and tamper-proof package and to provide added protection to the product. It was found that ordinary paraffin waxes would not stay heat-sealed satisfactorily at low temperatures and that it was necessary to add other ingredients to the paraffin wax to obtain a satisfactorily heat-sealed wrapper.

Packages made from paperboard cartons having flexible type of protective liners and waxed paper over-wraps could be compressed slightly between refrigerated plates without injuring or detrimentally distorting the packages. This compression feature is necessary to provide good contact between the plates and both surfaces of the product.

In the early days of the quick-frozen food industry, low temperature transportation and storage warehouses were not efficient or plentiful. This condition made it necessary for the quick-frozen food packers to provide excessive insulation to their shipping cases so that the product would arrive at its destination in proper condition. A special double-wall corrugated shipping case with two double-wall liners and several pads both in the top and bottom of the case were first used. This condition has changed tremendously and today the equipment and methods of handling quick-frozen products have become so efficient that a regular single-wall corrugated shipping case without pads or liners is perfectly satisfactory.

Tests have indicated that kraft corrugated shipping cases having a water finished outer liner stands up better under the condensed moisture condition that exists during transportation of quick-frozen foods than any other type. However, jute cases are being used by some packers and might be more commonly used if the outer liners were treated so that they would not become undesirably affected by condensed moisture.

Several of the quick-frozen fruits are packed in a syrup which necessitates a rectangular leak-proof container. A container of this type offers real packaging problems. Many special types of containers were developed and tested but all had weak points. Several types of glued bags were tried but all leaked. One of the most important requirements for a material used in a bag of this type is that it should have a good wet strength and be elastic enough to withstand the expansion of the product during the quick-freezing operation. Eventually a nitrocellulose coated paper was produced that could be heat-sealed and a leak-proof bag was first manufactured. At that time, there was no heat-seal bag making, nor bag closing equipment available and all of the early bags of this type were made by hand. Machines for making and closing bags of this type have since been developed and are used extensively today.

The nitrocellulose coated paper was only fairly satisfactory in its early stages. Glassine coated with a nitrocellulose coating was first used in a small way but was much too brittle for this purpose. Nitrocellulose lacquer was next tried on parchment but it was difficult and too costly to apply enough of the lacquer film to this sheet to seal well and to provide proper protection to the product.

A heat-sealing regenerated cellulose film was developed at about this time and this material with an anchored coating provided a material that could be used satisfactorily.

A thermoplastic coating consisting of a rubber and wax combination was successfully developed and tried on vegetable parchment paper but the bond between the coating material and the parchment paper was not satisfactory under the wet conditions, nor at the low temperatures that existed. Many types of papers were developed and tested before a satisfactory one was obtained. The most satisfactory sheet was made from a special long fiber alpha pulp and given a chemical treatment to provide the necessary wet strength and then plasticized to provide the necessary "stretchability" to withstand the pressure due to freezing expansion. The nature of the surface of this sheet is such that an excellent bond with the coating material was obtained. This thermoplastic coated sheet was used successfully under the adverse conditions that exist until rubber was restricted by the war. The base sheet of paper that proved most satisfactory for making bags for this purpose had a wet mullen strength of approximately 27 per cent of the dry mullen strength. It also had an elongation of 3.5 per cent.

Since then many coatings made from materials that are not restricted have been developed and tested, and practically all have proved unsatisfactory for packaging quick-frozen fruits. Many of them could not be bonded satisfactorily to the paper and others were not sufficiently impervious to the transmission of moisture vapors. There is still a very good opportunity for the paper (*Continued on page 100*)

New way to close coffee bags

By corrugating the tops of its coffee bags in a special way, the A. & P. Tea Co. has effected a satisfactory closure. The metal strip which used to be attached to one edge of the bag top and was bent down to hold the bag closed has been eliminated. It is estimated that the new method of closing coffee bags will save more than 3,000,000 pounds of vital metal annually.

Secret of the new method is a small machine which crimps the top of the bag. Technicians in A. & P.'s Brooklyn laboratory developed the device from spare and discarded parts available in their own plant. No glue or heat is needed at all to make the closure—the top of the bag itself furnishes the material necessary.

Before this wartime measure was adopted, A. & P. had a packaging line with an automatic bag making and filling unit. It was up to the technicians to take the equipment at hand and adjust it so that it would do the work of the new closing process. Engineers took two stations off the automatic packaging line and changed the closing operations so that the machine would fold the top edge of the bag twice, making a stiff surface, and then convey the bag through two gears that would crimp the folded edge. These gears are the important feature of the device in that they are the mechanism responsible for the tight closure of the bag. They are called corrugating gears and as the bag top passes between them they actually corrugate the edge. Stiffness of the folded paper and the corrugations combine to form a closing that will remain intact throughout shipment and whatever handling the bags of coffee will have to undergo from plant to consumer.

1



1. *This part of the device begins the closing operation. In the background, at No. 4, the bag is given a preliminary fold. Then the top is again folded over to effect a stiff edge.* 2. *Here the bags are being conveyed through the two corrugating gears which crimp the tops of the bags. At the lower left in the photograph, the fully closed bags are coming off the line, ready to be sent to the store.*

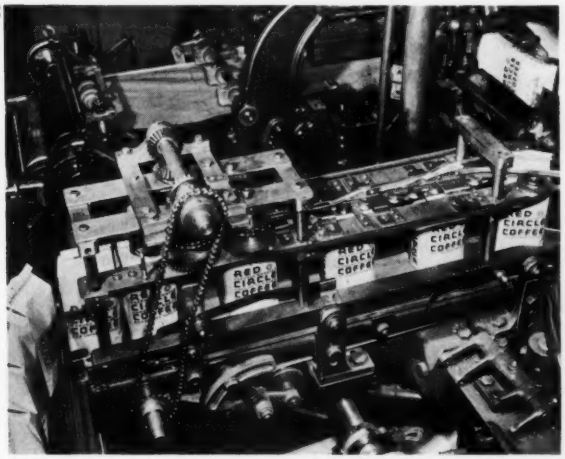
So far the A. & P. finds the bag with the new type of closure most adaptable to coffee in the bean rather than the ground coffee. The reason for this is that the bag is not so easily reclosed by the housewife as the metal strip bag. However, technicians at the food company's laboratory are convinced that with a little adjustment, consumer convenience can be incorporated into the corrugated type closure and that it will prove satisfactory for ground coffee.

Although the metal saved by the new method is remarkable, about 800,000 pounds are expected to be saved each year in the A. & P. operations alone, there will also be considerably less paper needed. With the present tightening up in paper usage, this fact gives further advantage to the new technique. Already, the company has made five of the machines—all of them from spare and discarded parts that otherwise might have been merely idle metal.

Since the severe restrictions on metal, there have been a number of different kinds of closures worked out for coffee bags. Many have a stiff strip which can be tucked in at the ends in much the same fashion as the metal end bag. Others have employed various crimping and sealing processes. All of them are wartime measures which have proved effective in saving metal and other materials. However, A. & P. believes that its process is unique in that it was able to take existing machinery and by using discarded metal create a device which makes effective a closing of the coffee bags, using even less paper than before.

In order that the saving of metal and paper for the war effort shall be as great as possible, A. & P. announces that the new development is available free of charge to any company using this type of closure. If the entire coffee industry adopts the new method, an estimated savings of approximately 3,200,000 pounds of metal will be effected. Complete instructions and the necessary blueprints to adapt automatic filling machines, already in coffee packing plants, may be obtained by writing J. F. Aims, A. & P. Coffee Service, 45 Washington Street, Brooklyn, N. Y. Most coffee concerns probably can construct the machines from materials already in their repair shops, the company believes.

2



Lining and laminants for fibre containers

*by Elon R. Brown**

Considerable progress has been made in the research and development of special linings and outside coatings for metal containers to insure non-toxic and non-corrosive effects on the materials packaged.

Today the fibre container industry is developing and perfecting various substances to give the same protection against many types of materials formerly packaged in metal containers by the use of various chemical linings, adhesives, laminants and sealers, and various types of paper, in combinations of one or more layers, in order to make the fibre container equal to the metal container in durability and protective qualities.

The fibre containers discussed here are of two types—the canister (or small package) and the drum (or bulk package). The problems for both types of fibre containers are very similar in regard to laminants, sealers and impregnations used in their construction. For this reason, the discussion of these materials will not be broken down, but handled as a unit.

Fibre containers for peacetime uses

Before the war brought additional problems, fibre containers were manufactured for many peacetime uses, principally for products that required maximum protection against contamination and, in some cases, required a water-proof package. These types of packages, because of their inexpensive construction, had been manufactured for some time and were more than satisfactory. They were used principally for dry materials, including molding powders, pharmaceutical chemicals, rubber accelerators, cleaning powders, poisonous insecticides, inflammable solids, C. P. chemicals, etc. The food industry has adopted the fibre drum for bulk shipments of ground coffee, cocoa, spice, powdered milk, powdered eggs, baking powder, salted nuts, certain grades of meats and fresh fruits. Fibre drums also provided adequate protection for rolls of transparent wrappings, sheetings and fabrics.

Most of these containers consisted of spirally wound or convolutely wound sides with metal closures on each end. A few, however, were made of all-fibre and used to package certain pharmaceutical chemicals, foodstuffs and specialties, such as ice cream. These materials were packaged without the use of metal because of the possibility of contamination. With the increased demand for metallic substances for war use alone, pressure has been brought on the fibre container manufacturer to develop suitable processes for the manufacture of adequate containers, using no metals.

Fibre containers for today's demands

Fibre container manufacturers, in addition to overcoming the handicaps caused by the metal shortage, have been called upon to package materials heretofore considered impossible to package in any other than an all-metal container. Fibre containers are now being used on materials that are actually going to the fighting front.

BLEACHING POWDER COMPOUNDS are being packaged in water-proof and moisture-vapor-proof containers made of ordinary chipboard and kraft paper, laminated with an asphaltic compound, together with a water-proof, chemically resistant laminant. This bleaching powder is used to refill the decontamination cans mentioned previously and serves the same purpose as the all-metal bleach drum.

20 MILLIMETER SHELL CASES consist of an elongated tube and are manufactured in much the same way with the same laminants. This container is used to store the shells before actual use. These shells must be protected from water and must be moisture-vapor in order to insure maximum effectiveness when used.

Other war materials such as tetrol, DNT, guanadine nitrate and smokeless powder are also packaged in fibre containers.

FOODSTUFFS for the armed forces and the lend-lease program are also being packaged in fibre containers that have been specifically designed for bulk shipments of perishable goods. These containers must also have particular laminants, fillers, sealers. Linings must be tasteless, odorless, water-proof and moisture-vapor-proof. For these shipments of dry materials, special laminants are used and combined with a particularly water-impervious vegetable parchment paper, or materials such as cellophane, glassine or rubber hydrochloride sheeting may be necessary.

Some of the strategic materials formerly packaged in steel are potassium permanganate, molybdenum, synthetic rubber, vinylite, polystyrene, phenolic resins, urea resins, photo chemicals, chlorate of lime, organic and inorganic dry colors, dyestuffs (dry), powdered magnesium, shellac (dry), lithopone gelatin, X-ray films, printing inks and paints.

Fibre containers, some all-fibre and some with metal ends, have been adapted to package materials like calcium cyanide, sodium cyanide and sodium hydrosulphate, all of which, when exposed to moisture, give off a poisonous gas. For the packaging of the more active chemicals, a chemically resistant, water-proof and moisture-vapor-proof laminant has been developed that gives maximum protection. Fibre drums have been made moisture-vapor-proof by the use of a so-called "asphalt barrierboard." In other words, the drums are made with an asphalt or asphaltic compound as a laminant and have a resinous varnish (phenolic and urea) on the outside of the drum to make it more weather-proof.

Great strides have been taken in the progress of fibre containers. For instance, viscous materials are now being packaged in fibre drums, i.e., jams, icings, fondants and various types of viscous mixes. For this type of package, rubber hydrochloride film was used for the inner laminant. Because it contains a rubber derivative this is no longer obtainable, but very good results have been obtained by the use of a cellulose acetate and an asphalt or asphaltic compound for a laminant. Aluminum foil was formerly used for some corrosive materials, but, at present, a silicate spray, cellulose acetate or glassine on the interior of the fibre container has been found to be satisfactory in a great many cases.

Fibre containers have recently been found satisfactory for holding hot liquids which solidify upon cooling, such as rosins, resins, waxes, asphalt, etc.

The packaging problem is, of course, complicated by the scarcity of material and affects not (*Continued on page 108*)

* Interchemical Corp.

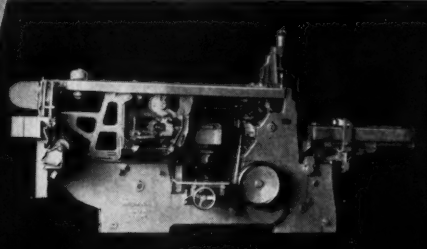
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PACKAGING MACHINERY — PAPER BOX MACHINERY

FRANKFORD, PHILADELPHIA, U. S. A.

How paper orders affect the local community

A Reporter's Comments from Minneapolis

by Chester L. Saxby

The paper situation in this section lies in such a twilight of uncertainty that paper packaging is almost at a standstill, not entirely from a probable lack of materials but also from an utter bewilderment on the legal side. Questions on ordering arise out of the "novelties and specialties" law of recent date because some plants can't tell whether or not they come under that outlaw class. They arise even more from the plan naming various quarters of last year as the basis for ordering rights in 1943. Some Minneapolis plants manufacturing paper containers ordered in 1942 for a full year at one time, so that the law allocating to them a percentage of quarterly buying appears to cut them off the lists completely, since they bought nothing in the specified quarter. Again, one government order chose a quarter of 1942 that was not the basis of an earlier order. A big paper firm in Minneapolis called on the OPA for clarification and was unable to get it. Releases giving a definition of terms do not remove ambiguity on the time element, nor is the situation eased by the peculiar ruling that orders received by January 5 of the present year for delivery in 45 days are not to be included in the annual amounts allowed to the ordering firm.

Scrap campaigns difficult

To relieve the paper shortage by another scrap campaign is far harder than it sounds. First, the trucking requirements would be high for paper by weight and trucks are not available any more in the numbers it would take. Second, in this state and area only one mill could handle the job. The others have no proper facilities to make paper out of paper; their machinery is designed only to the feeding of wood and similar forms. Further, paper mills cannot use waste or used paper for anything but rough finishes. They require a major proportion of fresh pulp for any results which demand set standards of fineness. Additional difficulty in using reprocessed paper springs from the fact that printer's ink and other staining fluids can be removed only by the free use of chemicals which are denied the trade.

All packaging and labeling outfits now operate, of course, on a reduced allowance. Ink is as yet freely obtainable but not all coloring chemicals as some chemicals are off the market. The McGill Lithograph Co. pointed out that seasonal orders apart from canning labels and including Christmas wrappings are likely to be ruled off. The inquiry here for exceptions has given no assurance of what is meant. Newspaper print cannot be purchased above 1941 figures, thus reducing papers which have added to their circulation since that time.

Makers of fibre cans capable of holding oils, greases and naphtha are fearful of going ahead, although they may have the only answer to the continued manufacure of paints, varnishes, enamels and liquid cements and pastes.

Three big mills on the West Coast have been closed and even those who are willing to take a chance on the definitions of the recent law with reference to their particular output are limited in taking orders more than two or three weeks ahead.

The Leslie Paper Co. ascribes paper troubles to a shortage of man-power in the woods and not in pulp mills where workers are known to be elderly and of long years' standing in their operations' knowledge. Leslie states that sanitation demands new pulp 100 per cent. Their Sisalkraft wrapper cannot continue as a means of relief, now that Java sisal has been taken for government needs. All sisal and jute rope three-eighths of an inch or thicker is being used to the last foot. The Mexican sisal swapped to the civilian trade is gone.

The Chase Bag Co. can buy no burlap to combine with cotton to make heavy sacks. It can still get hemp to go with kraft to make vegetable bags capable of standing hard use.

The Minnesota Paper and Cordage Co. has rebuilt and almost eliminated the core in the toilet paper roll to permit flattening for shipping. The roll can be slapped back into shape with no apparent injury. This firm now makes paper pails of the knockdown flap type without metal clips and handles. Summer specialties must cease manufacture unless substitute materials now being tested are approved. The home-bound picnicker may be wiping his fingers on his shirt.

He may even be wiping his nose there, too, in the opinon of Sabin Robbins Paper Co., which maintains that there are not enough spindles in America to weave war orders and that handkerchiefs may be as much of a rarity as stationery is fast becoming. This firm now deals in mill-ends, seconds and discontinued stocks and proves the need of more careful use of paper in correspondence and office files. It undertakes no other paper business.

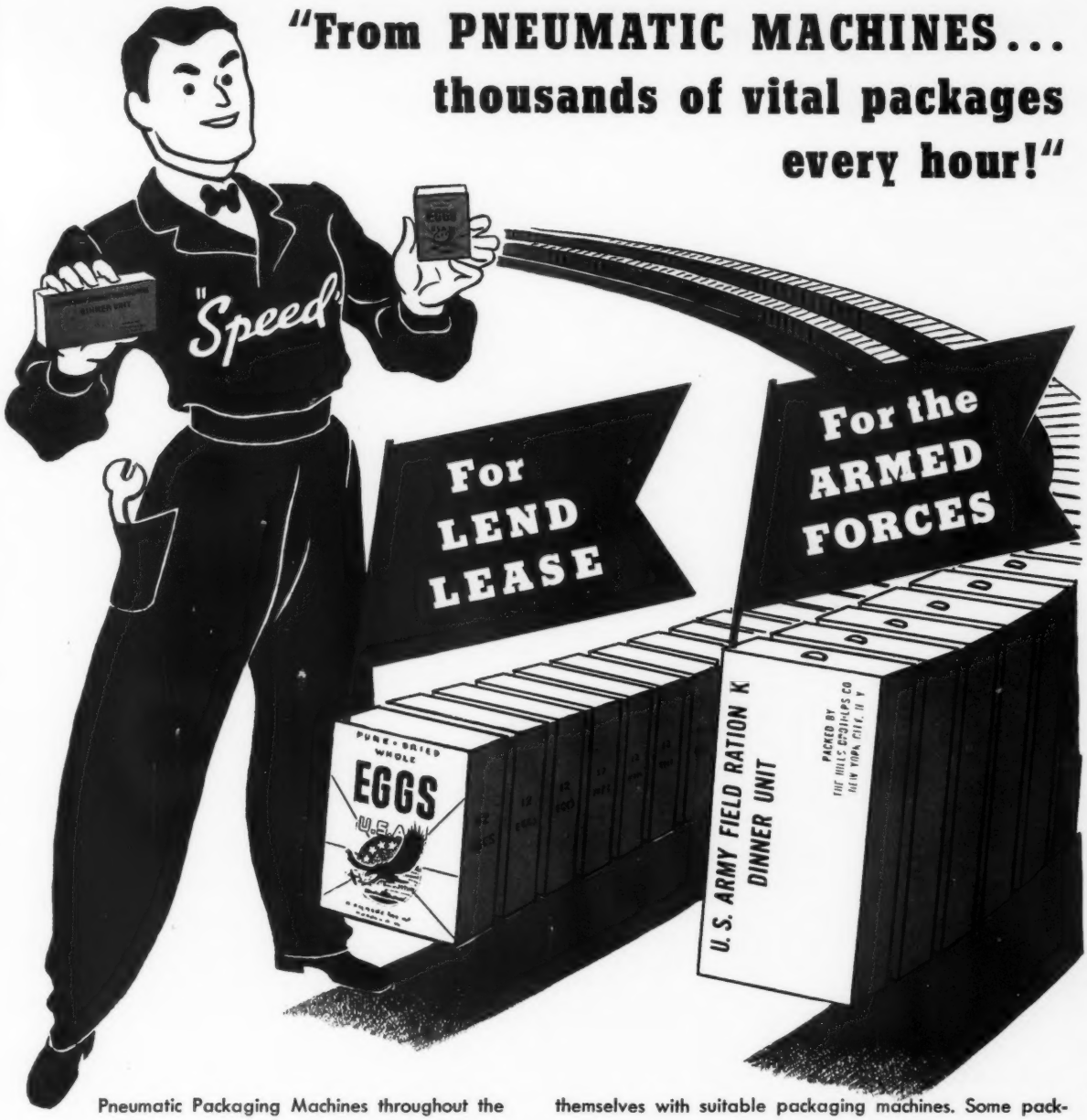
Box remodeling centers

The increased number of used box companies here shows a real profit in saving cartons and large fibre containers of all types. Products are going out of this city and to warehouses in paper boxes and wooden boxes originally styled and labeled and used by other businesses. Wooden box round-ups and remodeling centers have sprung up.

The Globe Paper Box Mfg. Co. of St. Paul believes that the need of electric power in industrial centers is the cause of paper-making reductions. The increased cost of labor involved in business and the need of hiring five older men to handle the work done by four former employees makes the paper contracts hard to figure. Corrugated boxes, Globe said, are the one answer to the scarcity of wood for shipping and exemption must be asked for corrugated linings at least. The government is asking for so many packing cases for ammunition, tubes for flares, temporary covers that will stand weather changes, tropic humidity and sea water, and then can be discarded, that packing cases will have to be picked up as carefully as furniture-moving blankets.

The Butler Paper Co. emphasized that under the new paper rulings it was fortunate for a paper concern that the buyer and not the seller is the liable party if orders are given and deliveries made beyond the amounts a company is permitted to buy in any one quarter. Otherwise, added Butler, no paper house would dare to accept orders, even from highly reputable concerns which might make mistakes.

"From PNEUMATIC MACHINES... thousands of vital packages every hour!"



Pneumatic Packaging Machines throughout the country are playing a major role in mass production of Powdered Eggs and of Ration K, the Army field ration unit. Powdered Eggs are an enormously important item in provisioning our Allies through Lend Lease. Army Ration K is a vital food unit for our fighting forces.

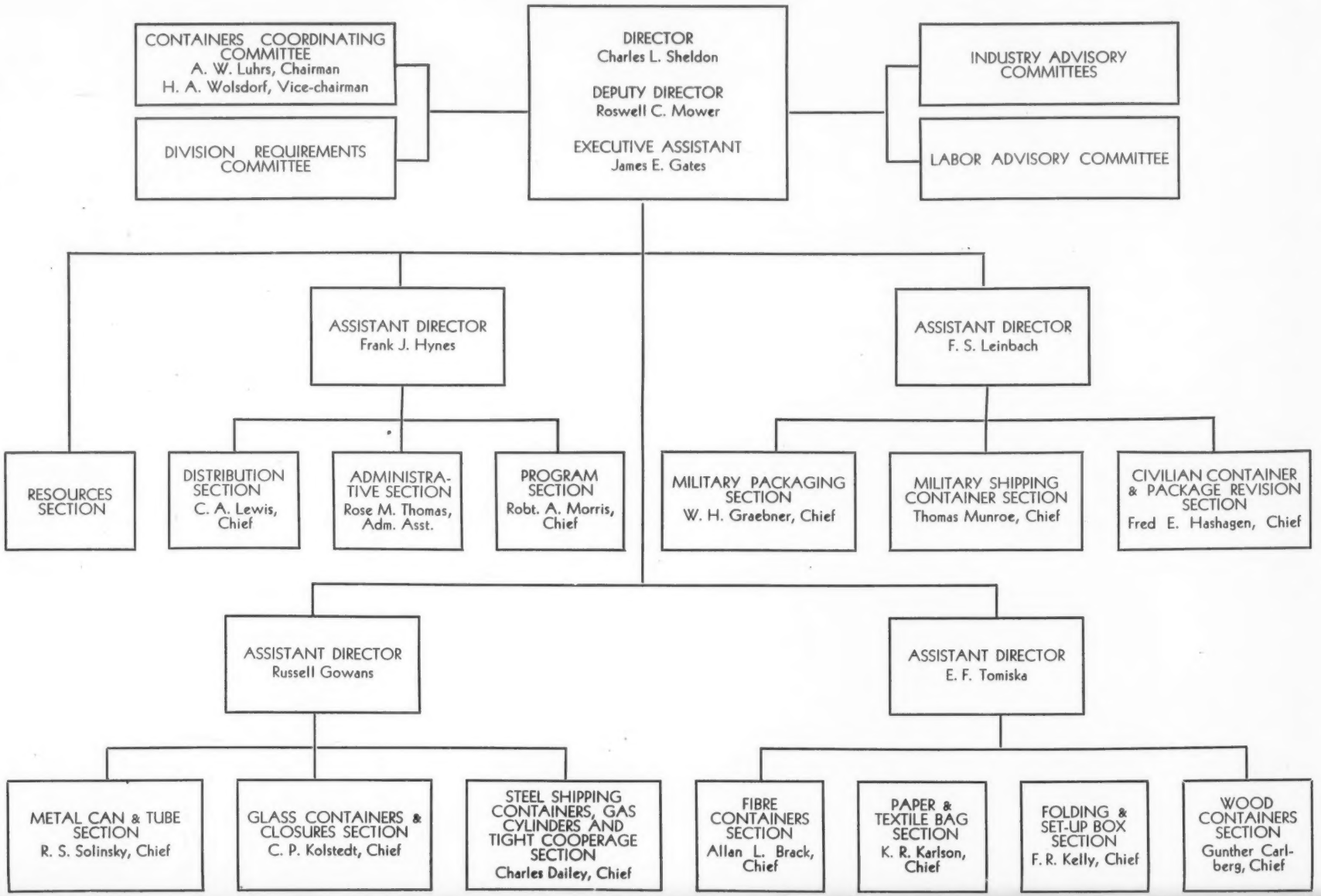
Manufacturers already in production on these two important products have found several different ways of equipping themselves with suitable packaging machines. Some packaging machines previously used on a peacetime product can be converted to handle these products—easily and quickly: a few change-over parts and they are ready to roll. Other manufacturers have salvaged "worn out" machines. Another group have found it necessary to purchase new major parts of machines or entire new machines.

Whatever your conversion problem may be in changing over to produce packages essential to winning the war, consult Pneumatic first. You'll find us prepared to give you—as always—expert advice and reliable guidance.

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WASHINGTON PERSONNEL CHART OF WPB CONTAINERS DIVISION



Saves Manpower... THE SET-UP PAPER BOX



Today, with virtually all man- and woman-power at a premium, many manufacturers are thanking the set-up paper box for big savings. Rigid, ready to use, it loads faster . . . saves many wasted motions and moments in the packing room. And its rigid construction, plus its protective covering papers, give added protection to vital products in transit . . . deliver them safely . . . conserve the manpower which went into their production!

Why not investigate *all* the advantages of today's most quickly available package? You are invited to reverse the 'phone charges to any Master Craftsman.

BALTIMORE, MD.
Maryland Paper Box Co.

BOSTON, MASS.
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BROOKLYN, N. Y.
Specialty Paper Box Co.
E. J. Trum Co., Inc.

BUFFALO, N. Y.
Thoma Paper Box Co.

CHATTANOOGA, TENN.
Atlas Paper Box Co.

CHICAGO, ILL.
Kroeck Paper Box Co.

COLUMBUS, OHIO
Columbus Paper Box Co.

DANVERS, MASS.
Friend Paper Box Co.

DETROIT, MICH.
Stecker Paper Box Co.

HARRISBURG, PA.
The McClintock Corp.

KANSAS CITY, MO.
Crook Paper Box Co.

LOUISVILLE, KY.
Finger Paper Box Co.
Kentucky Paper Box Co.

MERIDEN, CONN.
Shaw Paper Box Co.

NASHVILLE, TENN.
American Tri-State Paper Box Co.

NEWARK, N. J.
Mooney & Mooney
Newark Paper Box Co.

NEW YORK, N. Y.
A. Dorfman Co., Inc.

PAWTUCKET, R. I.
Shaw Paper Box Co.

PHILADELPHIA, PA.
Datz Mfg. Co.
Walter P. Miller Co., Inc.
Royal Pioneer Paper Box Co.
Edwin J. Schoettle Co.
George H. Snyder, Inc.
Sprowles & Allen

PORTLAND, ME.
Casco Paper Box Co.

PROVIDENCE, R. I.
Hope Paper Box Co.
Taylor Paper Box Co.

SEATTLE, WASH.
Union Paper Box Mfg. Co.

SOMERVILLE, MASS.
Consolidated Paper Box Co.

ST. JOSEPH, MICH.
Williams Bros.

ST. LOUIS, MO.
Great Western Paper Box Co.
Moser Paper Box Co.
F. J. Schleicher Paper Box Co.
Service Paper Box Co.

UTICA, N. Y.
Utica Box Co., Inc.

WILMINGTON, DEL.
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COOPERATING SUPPLIERS:

Appleton Coated Paper Company; Blackstone Glazed Paper Company; Bradner Smith & Co.; Louis Dejonge & Company; Globe Manufacturing Co.; Hampden Glazed Paper and Card Company; Hartford City Paper Co.; Hazen Paper Company; Holyoke Card and Paper Co.; Holyoke Coated & Printed Paper Co.; Hughes and Hoffman; Lachman-Novasel Paper Company; Marvellum Company; Matthias Paper Corporation; Nashua Gummed and Coated Paper Company; Pejepscot Paper Co.; Plastic Coating Corp.; Racquette River Paper Company; Riegel Paper Corporation; Stokes and Smith Co.

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WASHINGTON REVIEW

by G. T. Kellogg



● **Controlled Materials Plan**—One of the most important things appertaining to packaging that has happened in Washington in several months is the promulgation of Controlled Materials Plan Reg. No. 5.

The industry is already familiar with CMP, whereby any request for materials must be passed on down to the original producer, but under Reg. 5, which is the clarifying order of the WPB, one finds:

Manufacturers of the following are entitled to AA-1 priorities for maintenance, repair and operating supplies:

1. Metal barrels, drums, kegs and shipping pails.
2. Closures (pressed paper and molded plastic).
3. Glass containers.
4. Wooden, paper and fibre containers.

It must be explained that definitions under the regulation called maintenance "the minimum upkeep necessary to keep a facility in sound working condition," and repair is defined as the "restoration of a facility to sound working condition when the same has been rendered unsafe or unfit for service by wear and tear, damage, failure of parts, and the like..."

"Operating supplies," include "any material or products which are normally carried by a person as operating supplies according to established accounting practice and not included in his finished product..." This is unofficially interpreted to mean glues, solders and other so-called "operating supplies."

In addition, Reg. 5 provides that manufacturers of kitchen and household cans and pails, metal bottle caps and closures, except beverage crowns, metal cans, collapsible tubes, cooperage and box-making machinery, metal container-making machinery, printing machinery, and pulp and paper machinery, are eligible for a preference rating of AA-2X in obtaining maintenance, repair and operating supplies.

However, the order distinctly eliminates from the definition of operating supplies such supplies as printed matter and stationery, paper, paperboard, and products manufactured therefrom, including molded pulp products.

● **Waxed Paper Ceiling**—By virtue of MPR 307, about 65 per cent of all waxed paper sold in this country will be brought under specific dollars and cents ceilings at levels generally $1^1/_2$ per cent below present ceilings, OPA has announced. Lines affected by the order include printed opaque roll bread wrappers, inner wrappers, spot printed sheet bread wrappers, certain grades of miscellaneous plain waxed paper, printed opaque carton sealers and supertransparent sulphite bread wrappers, representing items generally sold by the manufacturer direct to the user.

● **What Is Your Job?**—What a man does, rather than his marital or domestic (or paternal) status, is the new rule for the draft under the redesigned War Manpower Commission, under which operates the Bureau of Selective Service.

Among the packaging industries listed as non-deferrable are workers in cut, beveled and etched glass, glass novelties and one or two others, but for the most part, packaging industries workers escaped the "non-essential" finger.

This means little, however, since draft boards all over the country, called upon to furnish so many men, are constrained to call up every able-bodied man in their territory, regardless not only of marital status but of industrial essentiality, unless specifically exempted.

● **No More Steel Drums for Nonessentials**—Effective March 1, WPB announced, steel drums may not be used to pack sand, water, bird seed and eleven chemicals under Limitation Order L-197. The 11 chemicals are: Ammonia alum, dry ammonium nitrate, dry boiler compounds, magnesium chloride, $6H_2O$, potash alum, soda alum, sodium aluminate, sodium bisulfate, sodium nitrite and sodium tetraphosphate.

At the same time, the amended order grants permission for the packing in steel drums of certain other chemicals for which substitute containers have been found impractical. These are:

Copper sulphate, monohydrated, amyl acetate, amyl alcohol from all sources, amyl phthalate, butanol, butyl acetate, butyl oxalate, butyl phthalate, ethyl acetate, ethyl carbonate (all grades), ethyl oxalate, ethyl phthalate, sodium chlorate, and potassium chlorate.

Other changes made by the amended order are:

1. Certain oils and greases are transferred from List A to List B. List A contains items which may not be packed in steel drums. Items on List B can be packed in new or used steel drums in the hands of the packer prior to September 14, 1942, or in used drums manufactured before that date and purchased and delivered to a packer prior to November 7, 1942.
2. Exempted from the terms of the order are steel drums having a capacity of more than 30 gals. and a steel gage lighter than 23.
3. Drums containing materials to be incorporated in certain military items are exempted from the restrictions. The order as previously amended exempted only drums containing materials to be delivered directly to the Army, Navy and other listed agencies.
4. Drums containing materials to be used for repair, maintenance or operating supplies aboard ship are also exempted from the restrictions.

● **Canned Goods Rationing**—Ration Order No. 13 of the OPA gives information long sought as to how the nation's civilian supply of processed foods—canned, bottled or frozen fruits and vegetables, and dried fruits—will be rationed as a result of wartime shortages. According to OPA press representatives, "the regulation has been prepared in simplified form and non-technical language to aid public understanding and to facilitate the work of local War Price and Rationing Boards." It includes a summary of can sizes to be used.

● **Small Business Committee**—If for only one thing, the Senate Small Business Committee may be remembered for its recommendation that an all-important link between government and industry might be welded if trade associations were used to guide small businessmen in all fields through the maze of orders, rules and regulations issued by war agencies.

● **Price Supports to Growers of Canned Products**—Agriculture Secretary Wickard has announced special price supports to growers of tomatoes, peas, sweet corn and snap beans, designated as the "four major canning crops," as the Department's first step in a program to assist farmers in producing sufficient quantities to keep canning and dehydrating plants operating at full capacity.

Under the program, the Department, through the Commodity Credit Corp., will purchase the output of certified processors at prices to be announced by the Department. The Government will then resell to such canners at a discount, provided the canners have paid specified minimum prices to growers. Governmental purchase prices will be sufficient to permit canners to pay the grower specified minimum prices which the canner will be required to pay to be eligible for certification, according to the Department of Agriculture.

● **Metal Strapping of Bundles Restored**—Restrictions imposed by Conservation Order M-261 on the commercial use of metal strapping and wire on specified types of bundles have been removed by



SOVFOTO

. . . "Cvinya Tushunka" to you! And it's packed in Crown Cans

It's not likely that "Cvinya Tushunka" will ever be in much demand on the American market.

But the Russian Army likes it, and judging by present results, it must be a first class fighting diet.

"Cvinya Tushunka" is a mouthful of a name . . . but American packing plants are filling orders for millions of pounds of this Russian Army favorite . . . a combination of pork, onions, lard, pepper, salt, and one bay leaf to the can.

And Crown Can is supplying containers . . . just under a pound in size . . . which carry this fighting food to the Russian front. One more way in which Crown facilities and Crown workers are helping win the war on the production front!

CROWN CAN COMPANY
Philadelphia • New York

CROWN CAN

WPB, although no change was made in the restrictions on metal strapping on other containers.

Prior to the amendment, the order prohibited the use of metal strapping and wire on light-weight bundles and no one was allowed to use commercially any such material for bundles unless:

1. Bundle weighed more than 90 lbs.
2. Net weight of contents exceeded .058 lb. per cu. in. (100 lbs. per cu. ft.)

Letters and appeals from packers and packagers affected indicated these restrictions were too drastic, hence the change. The amendment permits the packing of such products as newspapers, metal pipes, shingles, wood box parts and knocked-down wooden boxes and similar commodities in light bundles fastened by metal strapping and wire.

● **"Outside Container" Order Is Coming**—Possibly even before this edition of Modern Packaging is off the press, an order will be put out prohibiting the use of outside cartons around already-labeled glass, metal or other containers, Modern Packaging's Washington office was told. Already, everyone knows, outside packages for liquor have been abolished—that is, paper cartons outside an already-labeled bottle—and the same sort of order is due for cosmetics and many other articles which are now "double packaged."

● **OPA Orders Savings to Be Passed to Consumers**—Released January 15, OPA Amendment No. 85 to the regulations covering coffee and coffee compounds orders manufacturers to pass on to consumers savings made through use of new types of paper or cardboard containers in place of metal or glass. The order is particular to exclude filling, closing, labeling or packing as part of the packaging costs, basing the price differential solely on cost of material for which they have arbitrarily set a deduction of $2^{3}/_{4}$¢ per lb.

● **Pharmacists Make Paper-Saving Recommendations**—Members of the Pharmaceutical Manufacturers Industry Advisory Committee, meeting recently in Washington, made the following recommendations:

1. Re-use of shipping cases for bottles received from bottle makers.
2. Full re-use of shipping containers by wholesalers.
3. Discontinuance of the custom of wrapping bottles by pharmaceutical manufacturers. Wherever protection for labels is needed, a band or sleeve, plus a protective coating, should be used.
4. A later meeting was determined upon at which recommendations will be made on the caliber of paperboard to be used in different size paper cartons and also on set-up boxes for vitamins, etc.

● **Glass Containers for Baking Powder**—Not sure yet that they will be able to pack their product in paper containers lacking metal ends, members of the baking powder industry are cooperating with the Bureau of Standards' Division of Simplified Practice to develop a glass container out of the "economy line" of glass containers approved by WPB suitable for glass packaging of baking powder in $^{1}/_{2}$- and 1-lb containers.

From replies already received by the Division, it appears that it may be necessary to request another size of container for the economy line, since the "jump" in the present set-up is from $16^{3}/_{8}$, fl. oz. size to $22^{3}/_{4}$, fl. oz. Most of the companies have indicated that a jar of about 19 fl. oz. capacity will be needed to pack a pound of baking powder.

Selection of a standard container to hold a pound of baking powder should, according to industry sources, be based on granulation of ingredients, method of mixing and handling, type of filler, size of opening and per cent of slack fill in packed container.

● **Clearing Office Set Up**—Harrassed business men who come to Washington "cold," seeking an answer to their war production problems, now may be enabled to save a little of the time and worry previously attendant upon their Washington visits. A new unit, set up within WPB, will answer their questions and refer them to the proper WPB or other war agency officials. Designed to eliminate, or at least minimize, confusion and delays on the part of business men who want information about where to take their problems, the new organization will be staffed by specialists and equipped to answer queries by telephone or in person. It will operate as a subdivision of the Business Services Branch of the Administrative Division, WPB.

● **More Greaseproof Paper**—An amendment to General Preference Order M-241 permits manufacturers of glassine, greaseproof and genuine vegetable parchment papers to produce up to 100 per cent of the quantity made during the base period under which they operate—that is, the six months' period ended March 31, 1943. These types of paper had a quota of 85 per cent of the base period prior to issuance of the amendment. These papers are used largely for packaging food, ordnance items, drugs and health supplies, as well as for electrical insulation and as tracing papers used in industrial plants.

● **Boxes, Office Supplies, not MRO**—Fabricated containers (in knock-down or set-up forms, whether assembled or unassembled) required for packaging products to be shipped or delivered, are not Maintenance, Repair and Operating Supplies, a revision of Priorities Regulation No. 3 points out, even though they have been carried as such according to established accounting procedure. This means that users of such containers are not to get them under the AA-1 priority rating granted by CMP 5.

The revised PR 3 also eliminates from the MRO classification printed matter, stationery and office supplies, paper, paperboard and products manufactured therefrom, and molded pulp products, along with a number of other products.

● **Packaged Ice Cream**—Packaged ice cream, including Dixie cups, is still subject to General Maximum Price Regulation, despite the recent exemptions published as to food prepared for sale by restaurants and other eating establishments (Amendment 40 to "Gen. Max.").

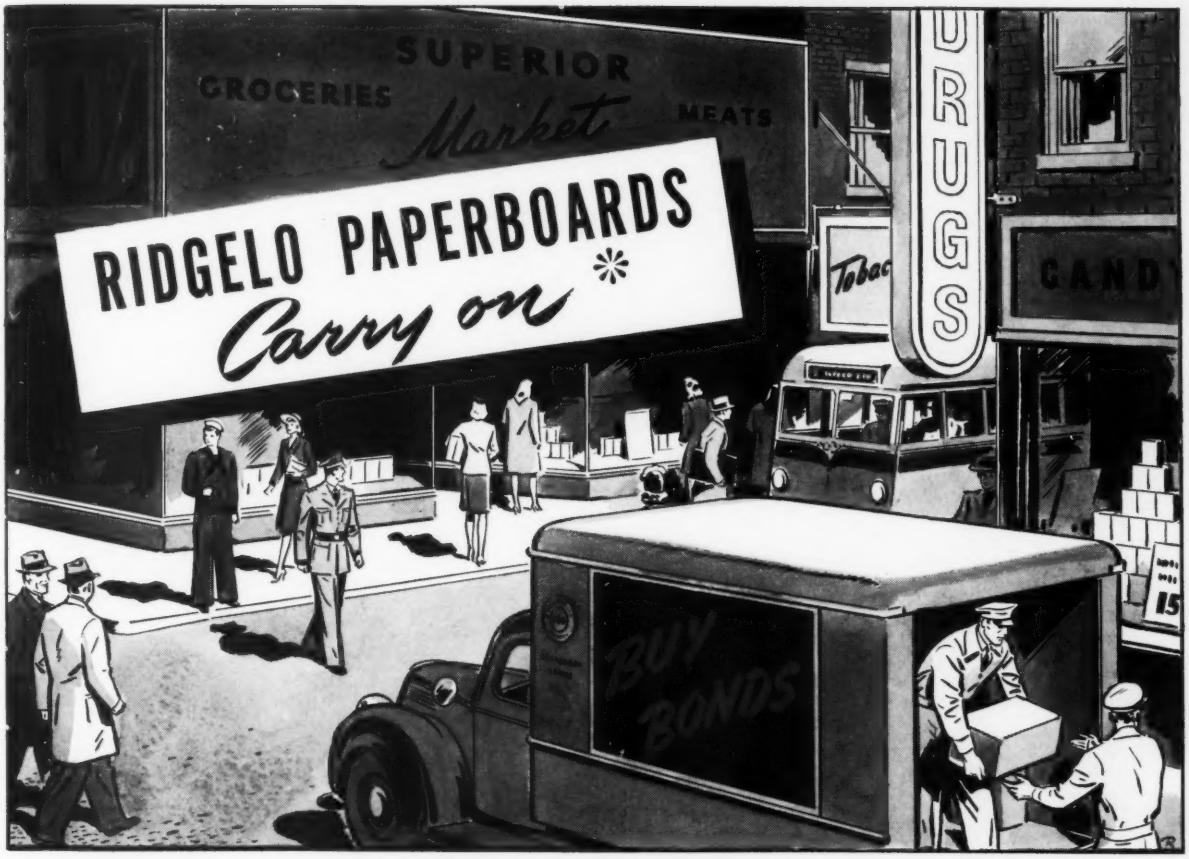
● **Canadian Pulpwood Rolling**—Canada will export 1,550,000 cords of pulpwood to the U. S. in 1943, WPB's pulp and paper division announces. In addition, there will be some 1,170,000 tons of pulp brought in from Canadian mills.

● **Some Shellac for Aniline Inks**—WPB has sent a bulletin to printing ink manufacturers assuring them that its chemical division will attempt to make available at least a limited amount of shellac for use in production of aniline inks.

● **Government Needs Rope**—Manila rope is the only kind strong enough to do certain jobs for the Army, Navy and Maritime Commission. But Manila rope is getting scarce. The government is anxious to buy all excess in the hands of business concerns and other owners. These holders are asked to report voluntarily all Manila rope they can spare if it is $^{3}/_{16}$ of an inch or more in diameter and 200 feet or more in length. The government will pay 10 per cent above the owner's net cost, exclusive of freight charges. Communications should be addressed to Murray Cook, 155 E. 44th Street, N.Y.C., acting as agent for the government.

● **Wire Rope Simplification**—Simplified practice recommendation for wire rope was approved for promulgation, effective February 15, 1943 (R198-43), according to the Division of Simplified Practice, Bureau of Standards. The program lists sizes, construction, grades and breaking strength of the vast majority of tonnage of wire rope.

● **Brewers May Use Scrap Metal**—Brewers and bottlers of carbonated beverages may appeal to use quota free a portion of the crowns fabricated from scrap unsuitable for war materials or any other purpose, which they acquired prior to September 26, 1942, the Containers Division, WPB has announced. Application should be filed with C. P. Kolstedt, chief, Glass Closures and Containers Section.



PROTECT HEALTH AT HOME... SAVE MATERIALS FOR WAR

While steel, aluminum and foils go to war, paperboards make the war-time packages.

Coffee, tea, cocoa — powders, spices, boullion cubes—dehydrated foods, nuts, vitamins—tooth powders, bicarb, medicinal cereals—soap, adhesive tape, tobacco —these are a few of the necessities now packed in Ridgelo paperboard.

Cartons for these products provide all the identity, protection and efficiency necessary to good packaging. Some are even tighter and stronger than we thought cartons could be! Remember, too, that clay coated boxboard uses a minimum of critical materials. If *you* are planning a war-time container, there may be an acceptable paper substitute available. Let's find out!

**And go to war too in shell clip, bandage and sulfa drug containers!*

★ Ridgelo ★
CLAY COATED
REG. U.S. PAT. OFF.

PAPERBOARDS FOR CONVERSION AND ESSENTIAL USES

MADE AT RIDGEFIELD, N. J.
BY LOWE PAPER COMPANY

COATING · LAMINATING · PROTECTIVE FINISHING

Representatives: E. C. Collins, Baltimore • Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Son, Inc., Philadelphia

U. S. patent digest

This digest includes each month the more important patents which are of interest to those who are concerned with the packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 10 cents each.

PACKAGING. T. F. Menzel (to Millie Patent Holding Co., Inc., New York, N. Y.). U. S. 2,306,399, Dec. 29. A package containing an infusion product, a pervious bag free from perforations enclosing said product and formed of a single heat-sealing, sift-proof filter sheet, the latter comprising a filter sheet layer base coated on one side thereof with a dry porous lamina of "partially fused" thermosetting plastic to form the interior surface of said bag.

BOTTLE CARRIER. T. M. Avery (to Union Bag & Paper Corp., Hudson Falls, N. Y.). U. S. 2,307,659, Jan. 5. An article carrier comprising a bag-like body composed of relatively stiff material having pleats connecting the edges of two opposite sides thereof.

WRAPPED PACKAGE WITH RIP CORD. E. F. Cornock (to Package Machinery Co., Springfield, Mass.). U. S. 2,307,667, Jan. 5. A wrapped package comprising an article having a wrapper folded around five of its six sides and folded down upon said sixth side with opposed tucks and intervening overlapping flaps, with tearing strip adherently secured to the wrapper and extending around the article in a plane perpendicular to said sixth side.

TEAR TAPE. F. E. Fehr (to Wingfoot Corp., Wilmington, Del.). U. S. 2,307,735, Jan. 12. A package comprising a wrapper of rubber hydrochloride film with a tear tape of rubber hydrochloride united to the wrapper which tape is formed with at least three guide threads running lengthwise thereof.

TEAR TAPE. A. B. Clunan (to Wingfoot Corp., Wilmington, Del.). In a package of rubber hydrochloride a tear tape of rubber hydrochloride film which is permanently elongated and therefore has a longitudinal tensile strength greater than its lateral tensile strength.

TEA BAG. L. B. Eaton (to Pneumatic Scale Corp., Quincy, Mass.). U. S. 2,307,998, Jan. 12. A tea receptacle of porous paper bag adapted to receive a quantity of tea therein, said bag being formed of a single folded sheet having a narrow elongated bottom portion, to relatively wide side walls and two relatively narrow end walls.

BOX. J. H. Burr (to Waldorf Paper Products Co., St. Paul, Minn.). U. S. 2,308,050, Jan. 12. A box having a wall constructed from corrugated board, said board being arranged to cause the flutes to extend transversely of the wall.

PACKAGE OPENING MEANS. M. S. Meyer (to Wingfoot Corp., Wilmington, Del.). U. S. 2,308,197, Jan. 12. In combination with package enclosed in a rubber hydrochloride film, a tear tape united to the film which tear tape comprises.

INDIVIDUAL SERVICE TEA BAG. G. B. Hogaboom, Newark, N. J. U. S. 2,308,241, Jan. 12. An absorbent compressible element, an attenuated lifting element attached to the first-named element and a hood including a pair of leaves hinged together and extending from their hinge toward said compressible element, said hood being penetrated approximately at the hinge by and slidable on the lifting element toward and from the compressible element.

CONTAINER AND WRAPPER FOR ARTICLES OF MANUFACTURE AND COMMERCE. R. D. Look (to Newspaper Service Corp., Houston, Texas). U. S. 2,308,527, Jan. 19. A container for flat articles, said container being in the form of a flat tube of cellulosic material comprising two walls, said tube being closed and sealed at both ends, and being provided with a slit from one common edge of the two walls through both of the walls to a relatively short distance, said slit dividing the container into a main body portion and a hood portion.

COMBINATION CASING AND MIRROR. H. Scharff, New York, N. Y. U. S. 2,309,544, Jan. 26. A casing having an open end and adapted to slidably contain a lipstick and a mirror.

HANDLE FOR BOTTLES. C. Chew (to Owens-Illinois Glass Co., a corporation of Ohio). U. S. 2,307,390, Jan. 5. A container having a reduced neck and its upper end defining a filling and discharging opening with a handle comprising a loop disposed vertically and having its upper end permanently connected to the neck and its lower end generally flattened and facing downwardly in close proximity to but spaced from the base portion of the neck of the container.

DISPLAY CONTAINER. N. McCahs & J. J. Scheper (to The Kroger Grocery & Baking Co., Cincinnati, Ohio). U. S. 2,307,146, Jan. 5. A container with outer bottom comprising overlapping connected flaps and unconnected hinged flaps overlaying said connected flaps, said hinged flaps having free edges formed with tabs at an intermediate point.

PACKAGING. T. R. Winchell, Harpswell, Maine. U. S. 2,307,250, Jan. 5. A package which comprises a plurality of pieces of sheet material arranged edge to edge and rolled up about the packaged material transverse to said edges.

GOLF CLUB BOX. W. G. Anderson, Jr. (to American Box Board Co., Grand Rapids, Mich.). U. S. 2,307,349, Jan. 5. An elongated container having a rectangular bottom with sides and ends extending at right angles from the bottom with a member adapted to telescopically receive one end of said container located over said end thereof.

GOLF CLUB BOX. W. G. Anderson, Jr. (to American Box Board Co., Grand Rapids, Mich.). U. S. 2,307,350, Jan. 5. A hollow cross bar adapted to be located over the bottom and between the sides of a container and made from a single sheet of paper board material, said cross bar being of trapezoidal form in cross section, having an upper side narrower than its lower side and an interior reinforcement of triangular form in cross section.

CONTAINER. D. R. Angus, New York, N. Y. U. S. 2,307,559, Jan. 5. A container comprising a box having a cover hinged to a top edge thereof, a bag of a capacity approximating that of a box and adapted to fit snugly in the box when it is filled.

END CLOSURE FOR TUBULAR BODIES. S. Bergstine (to R. M. Bergstein and F. D. Bergstein, Cincinnati, Ohio). U. S. 2,307,913. A container having a tubular body comprising wall members, each of said wall member having articulated thereto an end closure flap, said end closure flaps constituting opposed pairs.

CONTAINER. A. J. Tanner, North Haven, Conn. U. S. 2,308,128, Jan. 12. A container of the character described comprising a body having a plurality of walls, closure means for the body, said means comprising a folding flap extending from each of said walls.

DISPLAY CONTAINER. E. F. Spruth (to Morris Paper Mills, Chicago, Ill.). U. S. 2,308,396, Jan. 12. A display car-



On the Home Front

Protect your passes with EASTMAN ACETATE SHEET

See it done at the Packaging Show

The optical clarity of Eastman Acetate Sheet helps the guard in his rapid and highly important inspection of the pass and its bearer.

AT THE PACKAGING SHOW

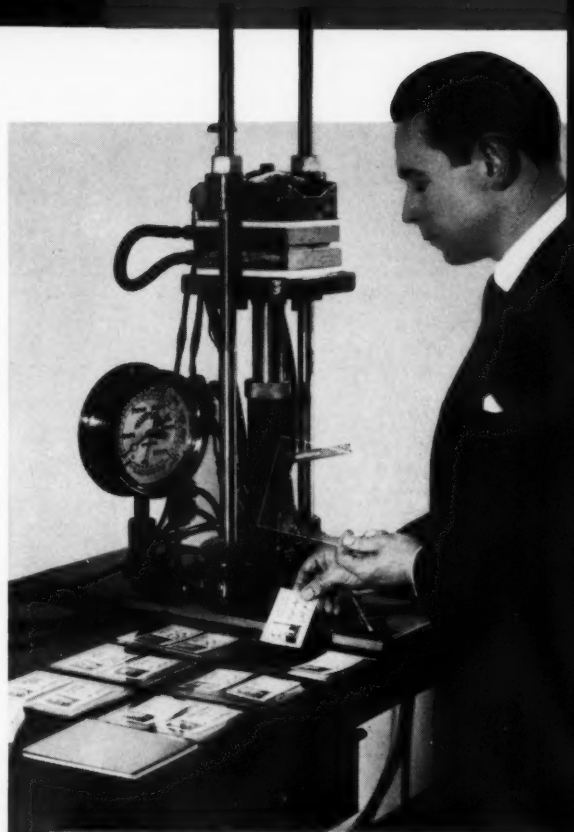
Sample identification passes will be laminated with Eastman Acetate Sheet in the Kodak Exhibit, Space 503, at the Packaging Exposition, Hotel Astor, April 13–16.

Or your own business card will be given this protection "while you wait." Be sure to see how easily it is done.

MAKING identification passes completely tamperproof is one of many wartime uses of Eastman Acetate Sheet. Airmen's and tank crews' goggles, civilian gas masks, map and plan protection, together with other assignments that must remain secret, keep production facilities operating at a record-breaking rate.

Still the government recognizes the vital importance of complete protection at the gates of essential war industries and government offices. Double lamination of the photographic pass with .015 transparent sheet prevents any tampering or alteration without detection, and makes the pass practically impervious to rough handling.

Employers and personnel managers, wishing to avail themselves of Eastman-Acetate-Sheet pass protection, should write for complete information to the Chemical Sales Division, Eastman Kodak Company, Rochester, N. Y.



Under heat and pressure, Eastman Acetate Sheet laminates and completely molds the pass into one unit, requiring no additional bonding agent.

EASTMAN ACETATE SHEET

ATTRACTS — PROTECTS — SELLS

ton comprising a blank cut, scored and folded to form an open faced front wall, side walls, a top, a bottom and a rear wall, having an integral collapsible easel portion joined along its lower edge.

ROTARY LIPSTICK HOLDER. S. Morrison, New Brunswick, N. J. U. S. 2,309,000, Jan. 19. A rotary lipstick holder with an operating head rotable relative to the casing to advance and retract the lipstick and a telescopic closure cap for the casing.

CONTAINER. J. M. Hothersall (to American Can Co., New York, N. Y.). U. S. 2,307,043, Jan. 5. A hermetically sealed container having a deformable section for indicating spoilage of the contents of the container.

RECEPTACLE. J. J. Morgan (to General Fibre Box Co., West Springfield, Mass.). U. S. 2,309,134, Jan. 26. A unitary foldable blank of corrugated fibreboard or the like for setting up into a unitary foldable box.

METHOD OF SEALING PACKAGES. I. L. Wilcox and V. J. Silliman (to Oswego Falls Corp., Fulton, N. Y.). U. S. 2,306,581, Dec. 29. Method of sealing a package consisting of a fibrous casing and a liner bag of impervious material arranged in the casing and provided with a small vent aperture in the upper portion of the bag, which method comprises arranging the open end of the bag in flat formation, sealing the top edge of the bag, expelling the air from the upper portion of the bag through said vent and subsequently sealing the same, folding the top sealed portion of the bag to position the flat formation adjacent the top of the contents.

PACKAGING. D. Ray (to Arden Farms Co., Los Angeles, Calif.). U. S. 2,307,076, Jan. 5. A method of forming and filling containers by folding a superimposed liner sheet and cover wrapper sheet simultaneously and in contact form to the bottom and sides of a container.

METHOD OF PACKAGING AND DISPENSING FLUID SUBSTANCES. R. Guyer and R. J. Hennesy (to Waldorf Paper Products Co., St. Paul, Minn.). U. S. 2,307,124, Jan. 5. Method of packaging and dispensing fluid substances adopted to solidify.

MACHINE FOR PACKING BUNS AND THE LIKE IN CARTONS. C. C. Johnsen, Phoenix, Ariz. U. S. 2,307,510, Jan. 5. A machine for packaging buns and bakery goods, comprising means to advance buns successively in rows to loading stations on the machines.

APPARATUS FOR FOLDING AND CLOSING CARTONS. E. G. Horowitz, Brooklyn, N. Y. U. S. 2,309,010, Jan. 12. An apparatus for folding the upright spaced flaps of a carton, comprising a frame, provided with means for moving the carton thereon.

TREATMENT OF PAPER. H. S. Mitchell (to Industrial Patents Corp., Chicago, Ill.). U. S. 2,309,079, Jan. 19. The method of packaging food products containing fats and oils normally tending to develop rancidity on storage which comprises wrapping said product in a paper having a phenol incorporated therein whereby such development of rancidity is substantially retarded.

PACKAGE FORMING AND FILLING APPARATUS. F. D. Palmer (to Kraft Cheese Co., corporation of Delaware). U. S. 2,309,209, Jan. 26. An apparatus with a continuously traveling supporting means, receptacle-forming means carried by said supporting means, means for receiving and delivering receptacle blanks to said forming mechanism comprising a receiving tray connected to said continuously traveling supporting means.

FILM FORMING APPARATUS. H. E. van Derhoef (to Eastman Kodak Co., Rochester, N. Y.). U. S. 2,308,034, Jan. 12. A hopper for feeding a flowable cellulosic solution to a moving sheet forming element adjacent thereto.

METHOD OF COATING CELLULOSE DERIVATIVE SHEETING. M. L. Piker (to Eastman Kodak Co., Rochester, N. Y.). U. S. 2,308,024, Jan. 12. The process of forming a continuous sheet from thermoplastic material which includes a film-forming solution onto a film-forming service.

PAPER SHEET DISPENSING BOX. N. Fleisher, Brooklyn, N. Y. U. S. 2,308,273, Jan. 12. A folding box for the packaging of paper sheets, comprising a cardboard box body.

APPARATUS FOR MAKING REGENERATED CELLULOSIC FILM. J. E. Brandenberger (to E. I. du Pont de Nemours & Co., Wilmington, Del.). U. S. 2,309,609, Jan. 26. An apparatus for treating gel regenerated cellulose film.

PACKAGE. F. D. Palmer (to Sealtest, Inc., Baltimore, Md.). U. S. 2,307,854, Jan. 12. A package with annular side wall member, a bottom wall disposed within side wall member and spaced upwardly from the lower end thereof, said bottom wall having peripheral flange portions depending therefrom in face to face engagement with the adjacent lower marginal inside portions of the package.

CONTAINER. H. A. Eggerss, Van Wert, Ohio. U. S. 2,307,923, Jan. 12. A container comprising a body portion made of fiberboard or the like, with metal band surrounding the outer periphery of said body portion.

CONTAINER. L. H. Jones (to Wingfoot Corp., Wilmington, Del.). U. S. 2,308,177, Jan. 12. A form for separating the interior of a rectangular container into triangular cavities which comprises a vertical wall to separate the interior of the container into sections.

PAPER BOX STRUCTURE. J. H. O'Brien, Peoria, Ill. U. S. 2,308,384, Jan. 12. A paper box structure comprising a long and relatively narrow strip material having an upstanding flap portion at each of two opposite edges paralleling the longest measurement of said strip and spaced apart the width of the same strip.

CARTON. W. H. Lieber (to Milprint, Inc., Milwaukee, Wis.). U. S. 2,309,348, Jan. 26. A carton comprising, front and rear wall panels interconnected along their opposite side edges by sets of side walls, the side walls of each set being foldably connected to each other and to the adjacent side edges of the front and rear panels and having an integral triangular ear depending below the lower edges of said panels.

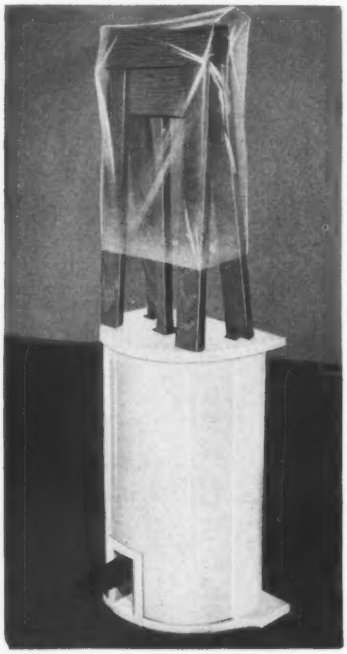
PACKAGE. F. D. Palmer (to Sealtest, Inc., Baltimore, Md.). U. S. 2,304,373, Dec. 8. A package comprising top and bottom members of substantially like size, side wall forming flaps foldably connected to the edges of said top and bottom members.

METHOD OF PRODUCING COMPARATIVELY RIGID CONTAINERS BY THE REPEATED IMMERSION OF A CORE IN FILM-PRODUCING SUBSTANCES. K. Bratring (to Neocell Products Corp. of Delaware). U. S. 2,304,676, Dec. 8. A container comprising a relatively thick rigid portion of celluosic material shaped to form the bottom and upstanding side walls of said container, and a thin pliable layer of the same material positioned adjacent the entire inner surface of rigid layer, and bonded thereto to form a homogeneous layer.

END CONSTRUCTION FOR PAPER CONTAINERS. J. Fitch (to Standard Container, Inc., Bloomfield, N. J.). U. S. 2,304,684, Dec. 8. In a fibrous container, an annular paper abutment adhesively secured to an inner wall of the container body, and an end cap anchoring ring having means at one edge for engaging with said abutment on the container.


ANOTHER DAY
WILL DAWN...
RIGHT now Heekin high speed presses for lithographing color on metal are busy day and night producing packages for use in defense—if you have such a package, we can give you quick, efficient service. But today is the time to plan for tomorrow . . . for another day will dawn . . . and you will want new ideas . . . an improved package with finer colors. We want you to know that Heekin offers you all of our facilities to do this job. In the meantime—Look Ahead.
THE HEEKIN CAN CO., CINCINNATI, OHIO.
VITA SONG
BIRD SEED
HEEKIN CANS
Lithographed
WITH HARMONIZED COLORS

Equipment and Materials



IMPROVED EXPANDING MANDREL

For use by packers of dehydrated and frozen foods, shortenings and similar products requiring lined cartons, an improved expanding mandrel has been announced by Pack-Rite Machines, Division of Techtmann Industries, Milwaukee, Wis. This equipment has been designed to facilitate insertion of pouch liners into cartons and the company claims it embodies definite improvements over their earlier model. The operator merely slips the pouch liner over contracted flaps of the mandrel, taps self-locking foot-pedal which automatically expands flaps and shapes the pouch into box-like position. Operator then slips carton over shaped liner and depresses foot-pedal which contracts mandrel flaps and removes pouch-lined carton.

SYNTHETIC RUBBER MOUNTINGS

The B. F. Goodrich Co., Akron, Ohio, announced that its line of rubber mountings can now be made of Ameripol, their synthetic rubber. Longer life for such equipment made of synthetic rubber is claimed, since the action of oils, grease, paint, fatty acids or heat are said to result in too-rapid deterioration of natural rubber used on mountings. Because rubber in shear is known to have six times the resiliency of rubber in compression, nearly all the company's rubber mountings, whether made of natural or synthetic rubber, are designed to carry the load in shear. These rubber mountings are recommended to reduce wear and tear on machinery, aid in the manufacture and operation of precision instruments and equipment, and eliminate noise and vibration.

LABELS FOR SERVICE MEN'S PACKAGES

To expedite postal handling and speed delivery of packages to service men, Dennison Mfg. Co. has brought out an attractive "Package for a Man in the Service" label to help insure prompt arrival of the package at its destination. The label is red and white and bears an illustration of Miss Liberty. The company also has a regular parcel post label which provides space for filling in rank, name, serial number, company and regiment, location of the cantonment and the return address of the sender.

FROZEN FOOD CONTAINERS

The Menasha Products Co., Menasha, Wis., has announced its line of frozen food packages for 1943 and a special frozen food industry sales staff has been established within their sales department to cover this phase of the company's activities. Items in the line include three consumer-size packages—a paraffined carton with a moisture-vaporproof, heat-sealing bag; a paraffined carton with end-lock contruction; and a consumer-size carton overwrapped in Menasha's transparent waxed paper called "Zero Seal." This particular type of overwrap, the company stated, was especially perfected to overcome the tendency of waxed paper drying and losing its sealing strength in sub-zero temperatures. In addition the company manufactures an institutional-size paraffined carton, of the same type, lined with a moisture-vaporproof bag.

SEAL AID FOR GUMMED TAPE

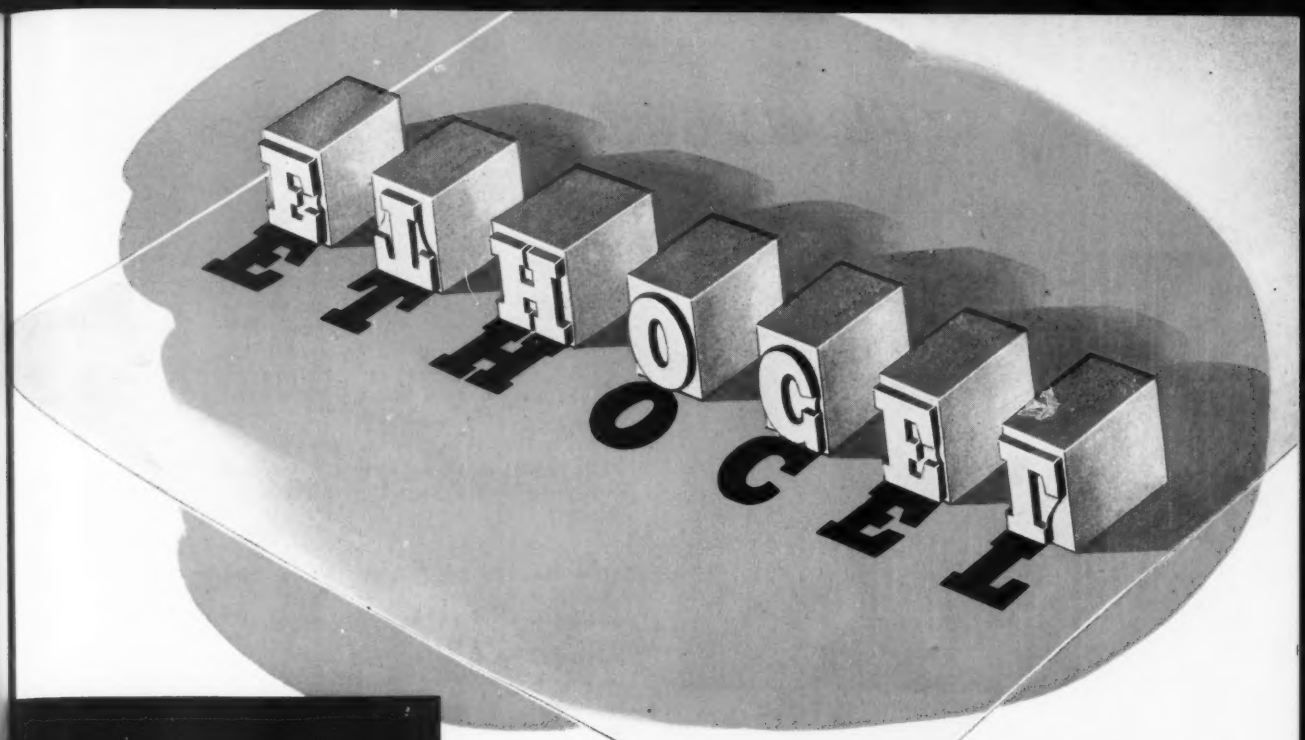
A non-inflammable chemical is being manufactured by Seal, Inc., Shelton, Conn., to speed up gummed tape sealing and secure better adhesion, the company states. When mixed with water in the tape dispensing machine, the compound is said to soften the glue on the tape during the split second after it has come from the machine and immediately on coming in contact with the box to produce an adhesion that cuts down time spent in "rubbing" to form a positive seal.

TAKES OVER CHAMPION STITCHERS

In addition to the manufacture and sale of its own line of carton-closure equipment, Acme Steel Co., Chicago, has assumed the distribution and sale of Champion carton stitchers formerly made by Hoffert Machine Co., Inc. Replacement parts and service will be readily available through Acme's branches.

RUST PREVENTATIVE

For the protection of finished and semi-finished machine parts, small tools and instruments for overseas shipment, a chemically compounded rust preventative known as No-Ox-Id has been produced by the Dearborn Chemical Co., Chicago. The company recommends that this product be used in accordance with its instructions and in conjunction with its wrapping material which is a laminated fabric and cellulose acetate film impregnated with the company's special compound. The wrapper is supplied in a standard roll measuring $34\frac{1}{2}$ in. wide, 60 yds. long, which may be slit to any desired width within approximately $\frac{1}{10}$ in. The individually wrapped and coated implements or parts may then be placed in a corrugated container, sealed and the container itself dipped in the compound. Complete directions regarding the use of both these products are contained in a brochure which may be secured on request direct to the company. In addition, the company makes another wrapper which is composed of kraft paper, cellulose acetate and a wide mesh fabric. This is suitable for bags and case liners.





HUMIDITY INDICATOR

The above device, formed from Ethocel Sheeting, contains crystals which change in color from light pink to dark blue, depending upon the percentage of moisture in the air. It is used in military packages and elsewhere to measure humidity. This device was made possible because of the ability of the fabricator to print the proper fast colors on this thermoplastic sheeting. One important recognition received by Ethocel Sheeting is its ability to receive and hold printing inks, even under adverse conditions.

ETHOCEL SHEETING

Printed—Easily and Effectively!

Successful printing of thermoplastic sheetings is essential in many current applications. Not only must the job be accomplished rapidly and economically, but such printed matter must retain its clarity and brightness over a long time.

Among all thermoplastic sheetings, Ethocel Sheeting is one of the easiest to print. Its unusual ability to absorb high boiling solvents has made possible the use of fast drying inks—especially developed to utilize this property of rapid absorption. Fast and economical printing is done with standard press equipment. Necessity for racking and extra handling of the printed sheet is avoided, and dust pick-up is eliminated. Exceptional adhesion and rub-fastness assure permanent, effective printing.

These qualities combined with such properties as low-temperature flexibility and light stability make Ethocel Sheeting a top ranking material.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

New York • St. Louis • Chicago • Houston • San Francisco • Los Angeles • Seattle

ETHOCEL

DOW PLASTICS

SARAN • STYRON

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CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

Plants and People



Sylvania Industrial Corp. has been awarded the coveted Army-Navy "E" pennant for outstanding performance in the war effort. At impressive ceremonies held January 22 at the company's plant in Fredericksburg, Va., and in the presence of such dignitaries as Governor Colgate W. Darden, Jr., Mayor W. M. King of Fredericksburg, the award was made to Dr. Frank H. Reichel, Sylvania president and general manager. Every employee will receive an "E" pin which he is entitled to wear "as a symbol of high contribution to American freedom."

Triangle Package Machinery Co. and its personnel are likewise recipients of the Army-Navy "E" production award. The presentation was made February 11 at their headquarters located in Chicago.

Chester F. Conner, manager of distributor sales, Industrial Products Division, The B. F. Goodrich Co., has been appointed to the staff of advisers on mechanical rubber goods in WPB's Office of Rubber Director.

Allen Abrams, vice-president and technical director of Marathon Paper Mills Co., has been granted a leave of absence to act as deputy director of research and development for the Office of Strategic Services in Washington. Mr. Abrams is widely known in the pulp and paper industry for his efforts in the application of paper and paper products to food packaging.

Technical Assn. of the Pulp and Paper Industry, at its 28th national technical meeting in New York, announced the re-election of Ralph A. Hayward, Kalamazoo Vegetable Parchment Co., as president; Vance P. Edwardes, International Paper Co., vice-president; R. G. Macdonald is secretary-treasurer, with offices in New York City.

Gus N. Arneson, chief of research for Douglas Fir Plywood Assn. for the past six years, has been named principal technologist in the United States Forest Products Laboratory, Madison, Wis., for the duration to further studies of war uses for wood, glue and plywood. Among its many other uses, plywood and wood containers are carrying materials of war to the armed services.

Directors of Continental Can Co., Inc., have elected Carle C. Conway as president. Mr. Conway is also retained as chairman of the board. Sidney J. Steele, former executive vice-president serves as vice-chairman of the board, with offices in Chicago. Frank J. O'Brien, who was made executive vice-president last September, will remain in that capacity in New York. The following appointments were also made: Sherlock McKewen, formerly assistant to Mr. Steele in Chicago, to be a vice-president, in New York; Wendell H. Funderburg, formerly central district sales manager, vice-president in charge of packer's can sales in Chicago; Eugene J. O'Connor, formerly in charge of general line sales, vice-president in charge of general line can sales in New York; Jacob F. Egenolf, formerly in charge of manufacturing, vice-president in charge of manufacturing in New York; Paul E. Pearson, formerly manager of the equipment manufacturing division, vice-president in charge of equipment development and manufacture in Chicago.

E. T. Gardner, president and general manager of The Gardner-Richardson Co., Middletown, Ohio, has been appointed to the board of directors of The Diamond Match Co., whose activities are now devoted, to a large extent, to the war production.

Richard P. Swartz, president of the Crown Can Co., announced the appointment of W. I. Gladfelter as vice-president in charge of operations. Mr. Gladfelter, a development engineer, during his connection with Crown Cork & Seal Co., has had an important part in the designing of modern bottling machinery as well as the seamless can. He will direct engineering and production.

Theodore H. Krueger, president of Better Packages, Inc., announces the creation of two separate operating divisions of his company. The Sealing Machines division of which Mills W. Waggoner is general manager will handle the manufacture and sale of the company's taping and sealing devices. The Aircraft Division, under the direction of M. H. Krueger, general manager, supplies a wide range of items to the country's air forces.

The Aridor Co., Chicago, Ill., manufacturers of closures for glass containers, announces ownership of the company now held by Ball Brothers Co., Muncie, Indiana. The Aridor Co. will continue to function as an independent unit in the manufacture and sale of caps and no change in management is contemplated. Col. R. G. Peck remains as president and R. G. Peck, Jr., as vice-president and sales manager.

Empire Box Corp., Garfield, N. J., celebrates its 40th anniversary. Founded in 1903 as a small box-making plant, the company now has factories located in Garfield, N. J., and South Bend, Ind.

Charles A. Southwick, Jr., has resigned his post as director of packaging research and development for General Foods Corp. to join the executive staff of Shellmar Products Co., Mount Vernon, Ohio. As director of research and development for Shellmar, Mr. Southwick will be responsible for an expanded development program in the field of flexible functional packaging. Mr. Southwick will also devote a part of his time as technical editor of Modern Packaging.

Can Mfgs.' Institute announces the election of Frank J. O'Brien, executive vice-president of Continental Can Co., Inc., to the post of president of the Institute. Mr. O'Brien has been actively connected with the can manufacturing industry for 25 years.

Package Machinery Co., Springfield, Mass., already devoting most of its production to the manufacture of machines for small arms ammunition, rifle clip loaders, as well as packaging machines vital to the war effort, has just announced that it will produce gyroscopic compasses for the Navy. Other interesting activities of this company are those of its president George A. Mohlman, who, in addition to his many activities, finds time in his busy program to write to each of some 70 former workers who are now in the Services. Mr. Mohlman has (*Continued on page 112*)



A Roomful of Beauty in Every Jar

KEM-TONE is a new kind of paint in a new kind of paint package . . . glass jars! This "modern miracle wall finish" which can be rolled or brushed on with a minimum of fuss, muss and bother, is packed in U. S. standard glass containers, and sealed with Crown Screw Caps.

Manufacturers of foods, drugs and other household products who are being forced to adopt similar substitute containers for the duration will find Crown Closures available in a wide variety of types and sizes to meet their wartime needs.



CROWN CORK AND SEAL COMPANY, BALTIMORE, MD.

World's Largest Makers of Closures for Glass Containers

CROWN CLOSURES

WN'S WARTIME POLICY: *To supply closures, containers and services for packaging foods, beverages, chemicals, etc., d by civilians and the armed forces. To build an ever-increasing volume of vitally needed weapons of war for our fighting men.*

For Your Information

Industrial Salvage Branch of the Salvage Division, WPB, has organized a salvage committee in the cork industry under the chairmanship of Joseph J. Mundet, Jr., president of the Mundet Cork Corp., for the greater New York area. Mr. Mundet has selected executive committeemen from the industry to assist him in carrying out this vitally important work—Fred M. Wagner, president, Coyne and Paddock, Inc.; M. Piluso, president, Arco Crown Cork and Cap Co.; J. Berger, Duroyd Gasket and Die Mfg. Co. The industry program consists of locating, collecting, segregating and disposing of all types of critical materials as iron and steel, non-ferrous metals, rubber, burlap, Manila rope, obsolete machinery, tools, dies, jigs and equipment. The program has been organized under the supervision of R. Merrill Decker, Regional Chief, Industrial Salvage Branch, Region 2, WPB, and A. Boyd Zook, Senior Industrial Specialist.

Borden's plans to add canned fish to its postwar items. After more than 85 years in the dairy business, The Borden Co. is preparing plans for an additional postwar activity—the sale of canned fish to the public. It already has been engaged in the fish business since its Special Products Division in 1941 became one of the leading factors in the production of vitamins. In the pursuit of that operation, the company acquired two fish enterprises on the Pacific Coast. Substantial quantities of fish are caught by the company's West Coast fleet in obtaining its vitamin sources. Some of the fresh fish are marketed as far eastward as Chicago. Canned sardines are sold to the armed services. When the war is over, The Borden Co. plans to develop this business with civilian consumers.

Two leaflets presenting Simplified Selling as at least a partial solution to the retail personnel shortage have been issued by the National Consumer-Retailer Council. The leaflets have been prepared to help both retailers and consumers adjust themselves to the acute labor shortage which promises to become increasingly serious in the months ahead. One of the leaflets is addressed to retailers, the other to consumers. The former points out that it is not necessary to change the character of department stores, but it is necessary to simplify selling so that the customer will find it easier to shop and therefore have less need for the services of the sales people. It is suggested that the more effective use of established selling methods—merchandise display, signs and labels—may well hold the answer to the problem. Specific suggestions are also given on how to use these selling aids so as to make self-selection easy. Copies of the leaflets may be obtained from the National Consumer-Retailer Council, 8 West 40th St., New York City.

Henceforth bills of lading, as well as consular invoices, must contain a statement that the merchandise being shipped is either (1) covered by a certificate of necessity or (2) by a letter of recommendation from the Priorities Office at Quito or (3) that the shipment is not covered by either such document, according to an announcement by the Commerce and Industry Assn. of New York. If covered by a certificate or letter, the number of the certificate or letter must also be stated.

Bottles and casks may be able to move most of the wine California normally ships in tank cars, now requisitioned for hauling war materials. Producers there say they could bottle 20 million to 25 million gallons, compared with 12 million to 14 million last year. They see the possibility of handling their "exports" to the East Coast (more than a third of the state's total shipments) entirely by cooperage. A reduction already has been asked on westbound freight rates for empty casks. Another possibility is to have wooden tanks mounted in box cars. About 75 per cent of California wine going to the East normally travels in multiple compartment cars.

General Electric Co.'s Plastics Department, 1 Plastics Ave., Pittsfield, Mass., announces a new 16-page booklet entitled, "Designing Molded Plastics Parts." It is an enlarged edition of a similar 8-page booklet issued last year. The booklet is technical and is intended for product engineers. Subjects covered include inserts, shrinkage, tolerances, wall thickness, holes, undercuts, ribs, bosses, fillets, threads, assembly devices, materials, physical properties, chemical and thermal properties and information about electrical properties.

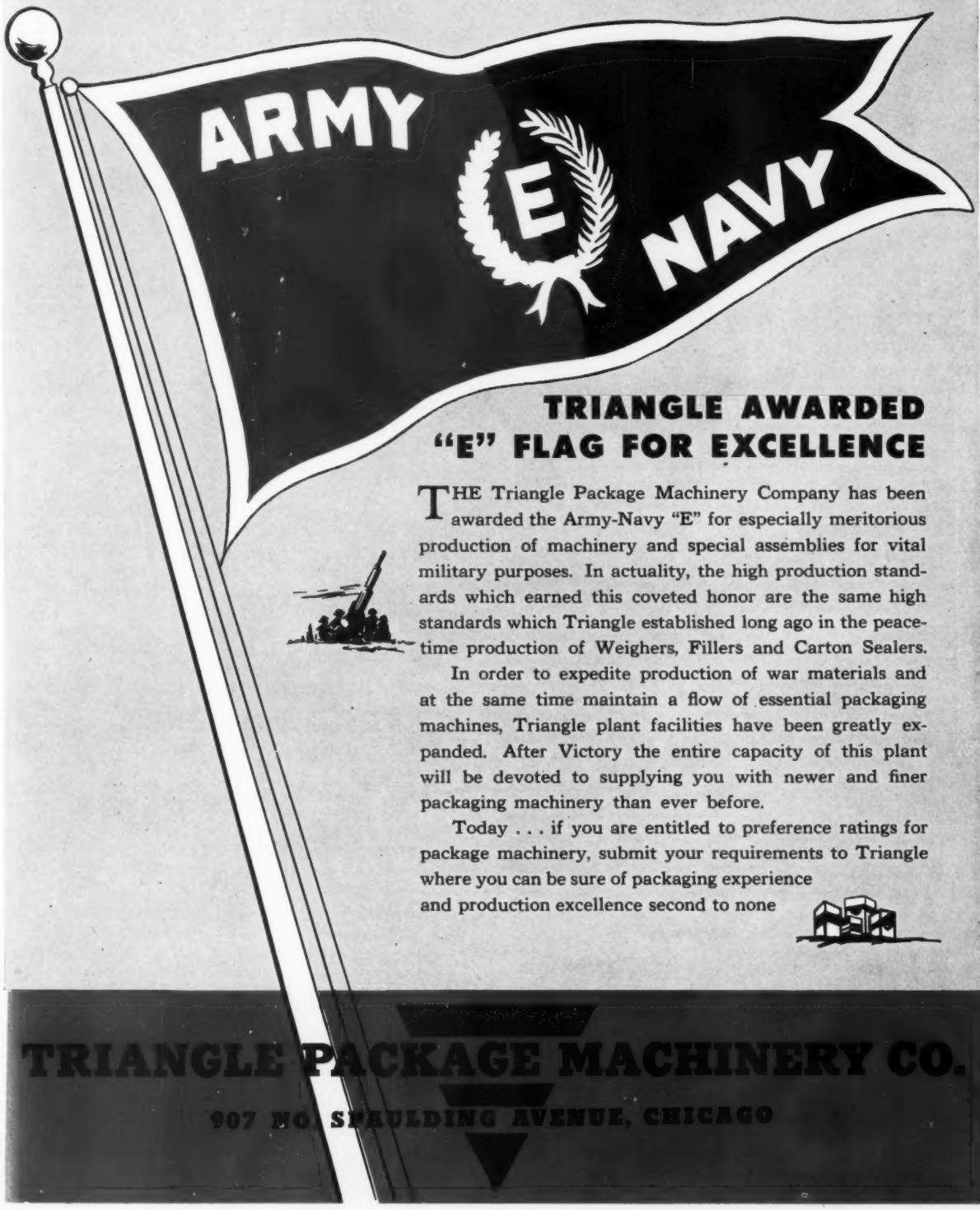
More than 2,300,000 lbs., gross shipping weight, of collapsible tin tubes were received for reclamation by the government agency, The Tin Salvage Institute, between April 1, 1942, and January 1, 1943, according to W. M. Rose, president of the Institute. The WPB order, M-115, which requires the purchaser of toothpaste or shaving cream to return an empty tube at time of purchase of fresh goods, went into effect on April 1, 1942, in order to conserve the nation's tin supply for use in war production. Of the gross shipping weight, more than 680,000 lbs. of the metal has been so far recovered and made available for such use. The remainder is in process of reclamation. Most recent figures available indicate that the tubes are still flowing in at the rate of hundreds of thousands of pounds each month. Nearly 400,000 lbs. were received in December alone. In addition to the tin that is being recovered, a sizable quantity of lead and aluminum is also being added to the nation's stockpile.

The extent to which the packaging, packing and shipping industries have integrated their activities with the war effort will be highlighted at the Wartime Packaging Conference and Exposition, to be held at the Astor Hotel, New York City, April 13 to 16, inclusive. Reports received from exhibitors by the American Management Assn., sponsor of the conference and exposition, indicate that exhibits will be concerned exclusively with presentation of the companies' products and services for war and for essential civilian needs. An extensive special exhibit of war packages and packing and shipping methods by various government agencies will be a feature of the exposition, according to the association. The conference program, concurrent with the exposition, will also be devoted entirely to war aspects of packaging, packing and shipping.

Annual meeting of the Folding Paper Box Assn. of America, Blackstone Hotel, Chicago, March 4 and 5, featured the discussion of governmental regulations, curtailments, labor shortages and transportation difficulties as they affect the folding paper box industry. An exhibition of hundreds of different products which are now using paperboard boxes was also held in connection with the meeting.

An American cookbook which deals exclusively with the preparation and cooking of dehydrated foods, "The Dehydrated Foods Cooking Manual," has been compiled and published by the Subsistence Branch of the Quartermaster Corps, the War Department announces. It is intended for the use of Army cooks and will not be available to the public at the present time. The Office of The Quartermaster General, the Quartermaster Corps Subsistence Research Laboratory in Chicago and commercial food organiza-

The PACKAGING INDUSTRY is in the war too!



TRIANGLE AWARDED "E" FLAG FOR EXCELLENCE

THE Triangle Package Machinery Company has been awarded the Army-Navy "E" for especially meritorious production of machinery and special assemblies for vital military purposes. In actuality, the high production standards which earned this coveted honor are the same high standards which Triangle established long ago in the peacetime production of Weighers, Fillers and Carton Sealers.

In order to expedite production of war materials and at the same time maintain a flow of essential packaging machines, Triangle plant facilities have been greatly expanded. After Victory the entire capacity of this plant will be devoted to supplying you with newer and finer packaging machinery than ever before.

Today . . . if you are entitled to preference ratings for package machinery, submit your requirements to Triangle where you can be sure of packaging experience and production excellence second to none

TRIANGLE PACKAGE MACHINERY CO.

907 NO. SPAULDING AVENUE, CHICAGO

tions which have pioneered in the dehydration of foods, collaborated in producing the manual.

Due to the fact that the American Drug Manufacturers' Assn. has been forced to move its convention to New York, because of transportation and travel difficulties, the Toilet Goods Assn. has relinquished its dates of May 4 and 5 in order to cooperate with the drug manufacturers. The Toilet Goods Assn. annual convention will be held at the Waldorf-Astoria Hotel, New York City, Wednesday and Thursday, May 12 and 13.

Question of giving and trying to live up to information on deliveries to those customers not in war work is an extremely important one today to the majority of manufacturers. Questions of deliveries emanate not only from customers, but also from the different companies' branch offices. Too frequently these two sources do not realize just what every manufacturer is up against today in trying to give a really honest and truthful picture. Carl H. Lambelet, president, New Jersey Machine Corp., Hoboken, N. J., tells how his company has been answering this question and offers a number of suggestions which may be valuable to other manufacturers. "Our coordinator is a woman, Miss Rose Liberti," writes Mr. Lambelet. "Miss Liberti, in her position as coordinator, handles all our contracts with government inspectors, etc. We have found that having a woman handle the problems incident to government inspections and other matters in no way acts in any detrimental manner to our company. I further believe that this is also a good example illustrating the fact that a woman can handle a job which previously all of us thought was a man's job pure and simple. A letter written by Miss Liberti to one of our branch offices may prove of assistance to other manufacturers since it gives a clear picture, to my mind, as to just what a simple question such as when will you deliver so and so's machine involves."

In part, Miss Liberti's letter in regard to shipments reads: "Each time you send us a request for shipment today, the first thing we have to look at is the priority rating. Since the receipt of the particular order about which you are inquiring 99 times out of 100, it has been shifted several times due to a higher priority being received in the interim. Usual procedure is to send the request to the Coordinator, then we start checking with the Production Department. Production contacts the Shop to see whether all the material has been received. If for any reason there is such a thing as a small screw missing and shipment cannot be made, we go to Priorities Division to find out why that particular screw was not delivered. Invariably this entails several more telephone calls. If that particular person is busy working on a government order or on something which may appear to him more important, the answer to the question may be delayed for a day or so....

"When telephone inquiries for shipments are received, it is well to advise the customer that this information cannot be obtained in the usual length of time, due to present day conditions, but that the factory is working on their request. In cases where telephone messages are not practical, a form letter should be sent, stating that the factory is looking into the matter and as soon as the information is received they will hear. We feel this will put across the idea to the customer that he is not being neglected, but is really receiving attention."

American Designers Institute is compiling a list of Industrial Designers. They ask that industrial designers send the following information to the Institute at 115 East 40th Street, New York City: Name, address, telephone number, branch of design and employer.

United States Government has now taken over, through the Alien Property Custodian approximately 50,000 patents formerly owned by enemy aliens or by nationals of enemy occupied countries. All of these patents will be licensed by the government on very reasonable terms (without royalty); in the case of patents formerly owned by enemy aliens, these licenses will be for the entire term of the patents; in the case of patents or patent applications owned by nationals of enemy occupied countries, such licenses will be for the duration and six months; postwar developments will determine the question of extending such licenses. The entire list of enemy owned patents can be obtained by sending $5.00 to the Office of the Alien Property Custodian, Chicago. Classified lists of such patents can be secured for 10¢ each, except in the case of the nine largest lists, which cost 25¢ each. These lists give both the numbers of the patents and the patent applications in a particular classification. Representative lists are: No. 23—Chemistry, No. 106—Plastic Compositions, No. 18—Plastics, No. 292—Closure Fasteners, No. 224—Package and Article Carriers, No. 93—Paper Manufactures, No. 216—Label Pasting and Paper Hanging, No. 154—Laminated Fabric and Analogous Manufactures, No. 91—Coating.

A timely book "Substitutes" by H. Bennett has been published by the Chemical Publishing Co., Inc., Brooklyn, N. Y. It describes new products, processes and materials to be used as substitutes and alternatives for the numerous raw materials which have become unavailable because of the war. Contents include substitutes for metals, plastics, textiles, rubber, chemicals, drugs, resins, waxes, paints, oils, fats and many other products. A plan is also given that shows how to determine whether a substitute material is really suitable and whether it will stand up under conditions of marketing and use.

Equitable Paper Bag Co., 47-00 Thirty-First Place, Long Island City, N. Y., has just released a booklet which outlines some of the more recent developments of wartime packing in essential products. Copies are available upon request.

21st Art Directors' Annual, published by Watson-Guptill, New York City, represents more than another milestone for the commercial artist and the art director. It is a real step forward along the lines of public recognition of the esthetic qualities of commercial art. This year's selections achieved the distinction of being hung in the Metropolitan Museum of Art in New York City. Surface decoration is not regarded as essential in our war economy, but packagers know that even on redesigned packages and substitute containers, they must have their name, trade mark and directions. As a matter of fact, many are taking advantage of the forced change in construction to simplify and modernize archaic decorations. The work done by America's leading commercial artists may well serve as a guide and inspiration for many businesses. It is a valuable addition to the bookshelf of package designer, design department and merchandising executive.

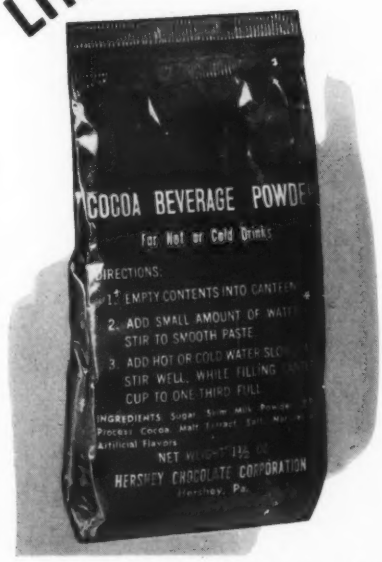
Public Library Service to Business is a volume published by The Public Library, Newark, N. J. It is a comparative study of the service to business of the public library in cities over 70,000. Its value to business men lies in its picture of the available resources throughout the country and indication of the ways in which many business men apply the information in these resources.

Amended Conservation Order M-103, issued by WPB, January 21, 1943, places no restriction on the use of color in advertising, publishing or printing. It limits purchases by inkmakers of one class of color pigments. It does not, however, limit the use, even to the inkmaker, of those pigments, in excess of such purchases, if he has the extra material on hand. Nor does it affect the other classes of pigments used, which make up by far, the greater sources of the colors for our industry purposes.

Because hundreds of thousands of retail store employees are seeking information on the new Victory Tax and because of many requests coming to them, the Controllers' Congress, National Retail Dry Goods Assn., has prepared a small leaflet, explaining the workings of this withholding measure.



TOUGH
LIKE THE FIGHTERS IT WAS MADE TO SERVE



This tough little field ration container passed its "physical." It was inflated, heat-sealed, beaten and generally mistreated. It came through —full of fight—and that's why these U.S.E. Airtite Bags of special heat-sealing, moisture-proof cellophane with perma-tite seams are providing protection and comfort for our fighting men in some of the wettest, hottest hell-holes in the world!

U.S.E. makes these moisture-proof envelopes for such foods as nutritious cocoa beverage and hunger-satisfying Army Field Ration D. U.S.E. also makes special envelopes for wound-healing sulfa drugs, health-insuring salt tablets, toilet paper, and other forms of containers and covers: for bayonets, airplane motor parts, etc. These U.S.E. protective packages are handy, dependable, lasting: the sort of protective packaging you may need for your goods after the war!

UNITED STATES ENVELOPE COMPANY
Container Division
SPRINGFIELD, MASSACHUSETTS

U·S·E *protective packaging*

Products of United States Envelope Company include TRANSPARENT CONTAINERS • MOISTURE-PROOF BAGS ENVELOPES • WRITING PAPER • NOTE BOOKS • PAPER CUPS • TOILET TISSUE • PAPER TOWELS

Frozen food packs

(*Continued from page 76*) industry to develop a paper and a coating to produce satisfactory bags for quick-frozen fruit products. The specifications for a sheet of this type are that it shall have a moisture vapor transmission rate of not more than 1 gram per 100 sq. in. at 100 deg. F. and 95 per cent R. H. or 0.05 gram at 0 deg. F. It shall also heat-seal tightly and stay sealed under wet conditions and at 0 deg. F., must be plastic enough not to rupture or separate the coating from the paper due to the expansion of the product during freezing, must be free from noticeable odors, must not block at 100 deg. F. and run freely on a bag-making machine. The paper must have a good coating surface and a sufficient wet strength to stand up satisfactorily under wet conditions.

Quick-freezing methods

Since the pioneer days of quick freezing, several different methods of quick freezing perishable food products have been developed and are being used commercially today. The original method of quick freezing the product in the package under pressure between two refrigerated metal plates produced a solidly frozen product. A carton having a sheet liner completely enveloping the product provided adequate protection to the product. The fact that the product was moist and frozen under pressure practically sealed the liner around the product so that the product did not desiccate even though the liner was not mechanically sealed. A large portion of the more than 400,000,000 lbs. of quick-frozen products that will be used this year will be packed in this manner during 1943.

However, some of the new methods of quick freezing produce a loose-frozen product. That is, one that is quick frozen before packaging and then packaged after freezing. The packaging problems for a loose-frozen product are in some respects different from those for the solidly frozen product. A top-opening, sheet-lined carton mentioned previously as being satisfactory for a solidly frozen product would not be entirely satisfactory for a loose-frozen product. Even though the liner completely surrounded the loose-frozen product, it could not be sealed tightly around the product due to the uneven surface and lack of moisture and pressure. Practically all of the loose-frozen products are packed in a bag made from regenerated cellulose and the bag is placed in an end-opening carton. A fairly large percentage of the 1943 packs of quick-frozen food products will be packaged in this manner. The loose-freezing of products is limited to those products that will flow easily and which can be packaged advantageously after freezing. Products such as spinach, broccoli, asparagus, squash and other similar products cannot be satisfactorily quick frozen and packaged afterwards.

Institutional packs

So far I have only mentioned consumer distribution, but quick-frozen perishable foods are used extensively in institutions such as hotels, restaurants, hospitals, trains, boats and even by the Army and Navy. The packaging problems in connection with the institutional packs were similar to those for the consumer size. After the sizes were determined it was a comparatively simple problem to change the consumer style package so that it would fit into the institutional picture very readily. Most of the institutional packages have a net weight of either $2^1/_2$ lbs. or 5 lbs.

A relatively small percentage of the loose-frozen products are packed in a so-called bulk package which contains approximately 30 lbs. or 50 lbs. of product. The usual container for this type pack is a corrugated shipping case containing a duplex bag consisting of a laminated glassine inner bag with a kraft outer bag. This container is fairly satisfactory but the paper industry could do much to improve it. Inner bags made from regular laminated glassine have been used commercially by several packers of loose-frozen products but this type of glassine is more or less affected by moist conditions which make it somewhat undesirable. A wet strength type of glassine has been developed which has practically overcome this undesirable condition.

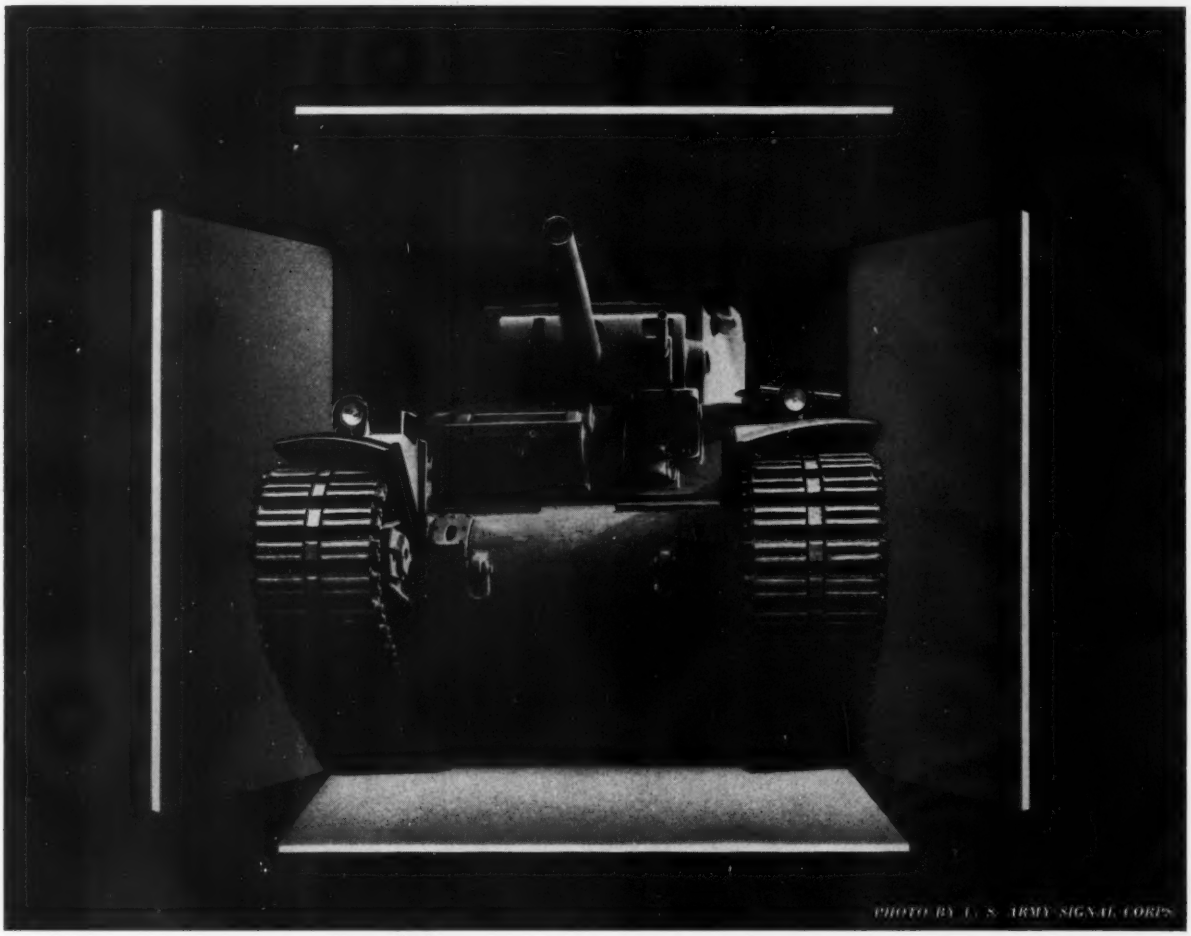
Cry-O-Vac (rubber hydrochloride) bags provided one of the most protective materials available for the keeping of quick-frozen products, especially the larger units such as poultry, until it was restricted by the war. The moisture-vapor transmission rate of this material was very low at 0 deg. F. and its elastic quality coupled with the possibility of its being subjected to a partial vacuum made it an excellent packaging material for quick-frozen foods. However, it had certain limitations of use particularly in connection with consumer packages. The thinness of this material when applied to a product made it necessary to protect the rubber derivative film by the use of other materials to prevent the rupturing of the rubber film after the product was quick frozen.

The packages that are being used today for the packaging of quick-frozen products are fairly satisfactory and do keep the product in an acceptable condition even after relatively long periods of storage at low temperatures. However, I do not believe that the best package has ever been produced. I visualize a single unit container made from materials that may not even exist at the present time. This container could be used for most solid-frozen and all loose-frozen products and would be manufactured, filled and closed at the point of production. It will require entirely new mechanical equipment and undoubtedly new packaging materials. I believe that someday in the future that the packaging industry, both mechanical and paper, will produce such a container and the frozen food industry is waiting for such a package and hope it can be developed in the not too distant future.

Standard package

Undoubtedly a rectangular package will always be used by the quick frozen food industry and the ideal, or ultimate package, might well be transparent and should be made from materials not affected by water or juices, or temperatures as low as −30 deg. F. It should be flexible enough to withstand pressure without detrimental distortion, should be closed tightly to prevent leaking or desiccation of the product and the materials used should be practically impervious to the transmission of moisture vapors. It should be relatively easy to manufacture and be readily handled automatically during production and the ultimate cost should be comparatively low, since speedy quality production is the aim.

You may be interested in the following figures. It is estimated that the quick-frozen industry will consume approximately the following tonnage of paper and paperboard during the year 1943: 16,200 tons of paperboard, 7,500 tons of corrugated paper, 1,800 tons of waxed paper, and approximately 1,700 tons of cellophane.



Warnercraft provides wartime product-protection

TRUE to Yankee tradition, the native inventiveness of Warner craftsmen has resulted in new and timely ideas for wartime packaging.

They have "by-passed" material shortages by evolving paperboard containers that are moisture-proof, grease-proof and sift-proof. They have reduced bulkiness to conserve vital cargo space. They have provided added protection for perishables against climatic hazards, such as extreme heat or cold and dampness.

Submit your problem to the Warner packaging "clinic." Whether you are making cosmetics or cartridges, these container experts can help you cut distribution costs.



WARNERCRAFT

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

THE WARNER BROTHERS COMPANY

Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.

War messages on packages

(Continued from page 58) war production." An outstretched hand holding change and war stamps carries the slogan, "Take your change in war stamps."

A frying pan pouring grease into the loading end of a large gun urges: "Housewives! Save your waste kitchen fats. They're urgently needed by our government to make glycerine—which makes high explosives for us and our Allies. Collect all used fats in a clean, wide-mouthed can. . . turn the cans over to your butcher regularly and help keep United Nations' guns firing."

A drawing of a woman's feet on a city street cautions: "Go feet first in the war. Carry your packages wherever you can. If you have to drive, do your share—share your car. Rubber is vital to victory. Conserve your tires—serve your country."

Other bags have nutrition messages and heat-conservation messages on them.

Throughout the Cleveland area the Telling-Belle Vernon Co. is carrying a patriotic appeal for the purchase of War Bonds and Stamps on its milk bottles. The bottles have applied color label in red fused into the glass. The patriotic designs show a Minute Man accompanied by the War Bond message. These applied color labels will not rub off.

Credit: Paper milk containers, The Gardner-Richardson Co. Victory slogan bags, Union Bag & Paper Corp. Milk bottles, Owens-Illinois Glass Co.



Stationery in wartime

(Continued from page 52) In addition to its staple items, Eaton has also included in its 1943 line a collection of novelty items, such as travel kits and, "Chitter Chatter sets" for the thousands of persons who are writing daily back and forth between the men in service and the home folks. There are 16 new ideas among these novelties and a total of 44 items in the novelty line.

All of the designs were made before the recent paper orders were issued. However, all were planned in accordance with anticipated government restrictions in mind. For example, the Highland and Escrito boxes, illustrated herewith, the company says are perhaps the best demonstrations of their conservation efforts.



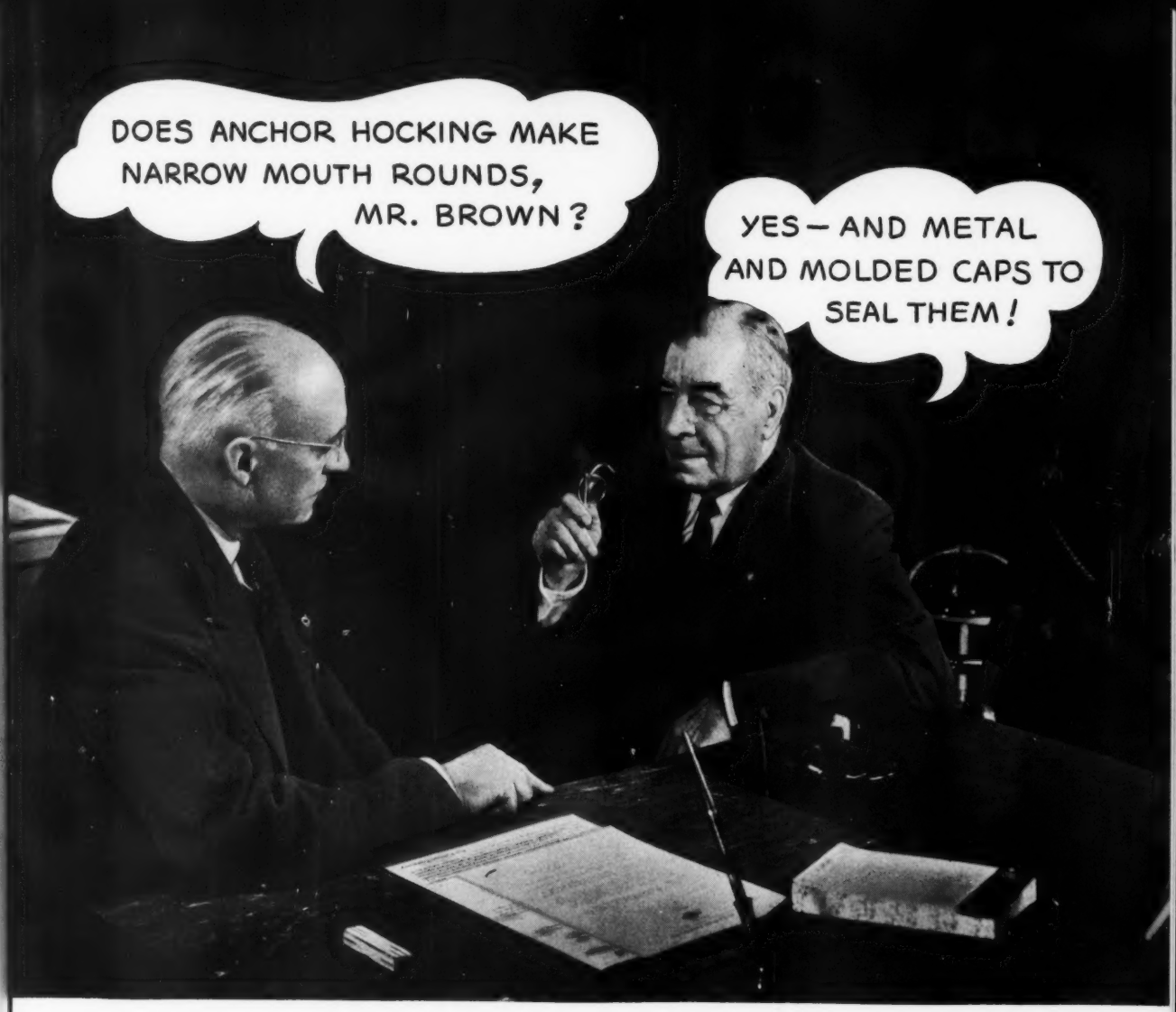
These efforts, they stated were not made after L-239 went into effect, but preceded the government order. More than a year ago they began using a lighter weight board than that specified in the final regulations (L-239). Their envelopes were also greatly compressed in anticipation of government orders to do so and consequently make the boxes much shallower.

Because of the publicity about the need for boxboard for shell and cartridge containers and for the conservation of shipping space Eaton said they made these changes in the interest of these conservations before the government ordered industry to do so. The Escrito box, for instance, was formerly $1\frac{1}{4}$ in. deep and is now $\frac{3}{4}$ in. deep—a reduction of 40 per cent in shipping space.

Another example of such conservation is the box for the company's open-stock envelopes. While other companies in the industry were still packing what they term their "pound envelopes" in boxes containing 125, Eaton adopted a box containing double the quantity, since very few stores order less of a kind at one time. This box was formerly 14 in. long. The company has now compressed the envelopes to save further space and board. Their open-stock envelope boxes containing 250 envelopes are now packed in a box 10 in. long. This shorter box has a further advantage in that it fits a store counter for open display, whereas the 14-in. box was too long.

The company, because of these redesigns, will also be in a good position to meet further government limitations should they go into effect. For instance, latest advice is that the government will limit social stationery manufacturers to 15 different envelope styles. Eaton has already limited their line to include only 12 styles. Further conservation can be achieved through the elimination of liners in envelopes.

Credit: Box designs by Eric Simon.



Complete as the alphabet—that's Anchor Hocking's line of Narrow Mouth Rounds—tops for liquid chemicals! 19 sizes, in capacities from ½ ounce to 128 ounces—and all are easy to fill and label...handle fast on the production line...come in amber or crystal glass.

And to seal them (as well as other containers for chemicals and drugs), Anchor Hocking offers the airtight, leakproof dependability of the Anchor C.T., NKCT. Tricon, Amerseal and Molded Caps.

Sample containers in sizes desired, plus proper closures and liners for your product, sent on request.

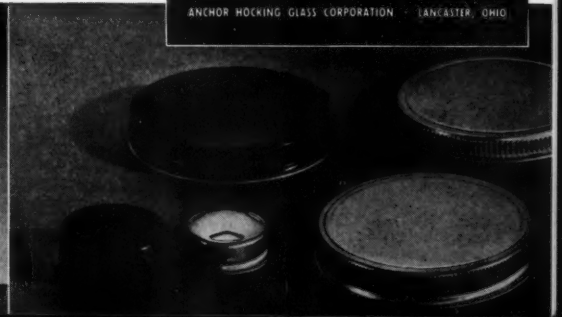
R. B. BROWN, one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 36 years.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION · LANCASTER, OHIO





Specific jobs displays

(*Continued from page 65*)

Feature new uses.
"Before and after" dramatizations—benefits by use.
Show variety of uses.

(6) Helping the dealer

Cooperative sales activities—groups of manufacturers joining in sales plan.
Creating the departments to merchandise related items.
Promotion of the related item idea.
Helping improve appearance of retail outlets.
Supplying suitable, atmospheric backgrounds for seasons, occasions and products.
Improving dealers service to customers.
Featuring prices of merchandise or services.

(7) Featuring the product itself

Presenting new container frequently with old.
Display of full line of products, actual or in reproduction.
Reproductions of product or package.
Featuring actual product or package in display.

(8) Featuring manufacturing aspects

How product is made, processes, etc.
What product is made of, raw materials, etc.
Where product is made, factory, plant, shop, etc.

(9) Featuring special sales points

Increasing sales unit.
Selling the product with allied products.
Emphasis on full-line selling.
Selling accessories with the product itself.
Suggest sale by illustrating actual sale in process.
Demonstration of the product.
Supplementing work of demonstrators with display.
Featuring sales arguments in lists, summaries, etc.
Highlighting one sales point, dramatization, etc.

That list, applied to a specific yardstick-product, will produce many practical ideas. Such a list is of value in planning display material of all types, whether a single unit is proposed or a series, not only because of its ideal production value but because, if followed, requires adherence to the principle of precise planning in display at the point of purchase, without which the great potentials of the medium are seldom capable of realization.

South American way

(*Continued from page 53*) those in Latin America. The face powder is a triple item unit. A round, set-up paper box contains face powder, a large puff and either a small bottle of perfume or a lipstick. Powder is packed in the base with a protective covering of paper. Inserted between this paper and a die-out shell is the puff. The shell holds the perfume or the lipstick and fits into the base tightly so that when the lid of the box is removed, the items in the base remain intact. A full telescope lid fits over the base, which has an all-over lace pattern in gold color. A springtime scene in gold, black, red, green, pink and yellow is depicted on the lid. Around the sides, grass and bright flowers appear to be growing. The round box is packed in a white and gold carton with product and company names in a deep pink. The multiple item unit has always been popular with women not only in Latin America, but also with women in the States. Several items packed together and sold at a certain price have always appealed to the bargain instinct which, apparently, is pretty universal. Para Ti has found that the pack has appealed to New Yorkers, Chicagoans and many others in cities and towns throughout the nation. The company found that though the same design was retained as that used in Venezuela, it was not considered too florid for northern tastes. Another pack in the Tuya line is the toilet soap. Single round bars of soap come in cartons which repeat the same color scheme and nymph and piping Pan figures used on the powder box. Four of the bars in their individual boxes are placed in a carton whose lid folds back to form a display piece. The figures are die cut so that they stand out in silhouette when the carton top is folded to make a counter unit. Para Ti finds that Tuya has been readily received by North American women and that the company has evidently struck a fairly accurate yardstick with its present packages in determining what will appeal to women in both the Americas.

As South Americans who have done business for years in their native land, the officials of Para Ti cite a number of things which may help to guide North Americans when some of them may be planning to do business down South American way. Latin Americans like packages that are not as streamlined as those in the States. They have a taste for "fantasia" is the way the Spanish speaking people put it. Also each of the Spanish American countries has regulations about packaging and these should be understood by anyone who expects to market in them. Much of the business, too, is carried on with long credit terms, contrary to the practice in the United States of payment within 30 to 90 days. Mass production is the keynote in the United States, but the smaller and extremely scattered populations in the southern republics make purchases smaller. Prices of items also have to be geared to the lesser buying power of those in the other western continent. Transportation is slower—no great railroad systems criss-cross the *llanos, campos* and the high sierras—and oftentimes products have to be carried to the smaller towns by burro pack trains or on llama back. When creating packages for the Southern American trade, say the owners of Para Ti, all these things have to be considered. Many of them are changing and will change when commerce between the two continents becomes active, but the better Americans understand each other, the more likely they are to create packages that will find mutual acceptance, they point out.

Credit: Cartons and boxes by J. Makowsky Corp.

Everything for paints but metal

(*Continued from page 49*) company formerly used shipping cases made of single thickness of board, but it became evident with the change-over to glass that these would not afford proper protection. Pabco was quick to adopt a shipping case made of board of double thickness which after tests was shown to be durable for shipping as well as storing the glass-packed products.

Special types of fibre tubes and shipping boxes which Pabco adapted to others of its diversified products are of particular interest. Nails and lap cement sold with roofing material had been packed in paper bags and tin cans. As a substitute consumer package for the paper bag, formerly used for nails, Pabco developed a compact spiral-wound fibre tube, the openings of which are plugged with odds and ends of felt material which the company manufacturers. The paper covering is then crimped over the ends to secure the contents. A small jar with continuous thread closure is used for lap cement. (*Continued on page 106*)

Make Your Identity Stick

Bottles and cans without labels are very bewildering, whether at home or abroad. Not only are *brands* lost but also the name and nature of the contents. We have labelling glues that will *stick* regardless of conditions.

Write or telephone our nearest branch factory and one of our technicians will make recommendations.

BINGHAM BROTHERS COMPANY
FOUNDED 1849
Every Kind of Roller and Adhesive

NEW YORK 406 Pearl St.
PHILADELPHIA 521 Cherry St.
ROCHESTER 980 Hudson Ave.
NEWARK Brown St. & Lister Ave.
BALTIMORE 131 Colvin St.

1943 PACKAGING CATALOG to be *WAR* Handbook

THE 1943 Packaging Catalog will sum up a full year's experience of American packaging at war. All of the new materials, all of the substitutes, all of the new types of packages—paper that holds grease, oil, moisture; plastic collapsible tubes; paper closures, etc., etc.—will be fully analyzed, described and illustrated by experts.

The 1943 Packaging Catalog will be the must book for every packager to own, to read, to consult frequently in making vital day-to-day decisions on all packaging problems. More than 100 separate articles will cover every type of package, machinery, package legislation, design, etc. The only complete directory to more than 200 goods and services consumed by packagers. Includes war conversions, test data, etc.

Every Copy to Be Sold
$2.50 Per Copy

Foreign and Canadian higher

1943 Packaging Catalog
Packaging Catalog Corporation
122 E. 42nd Street **New York, N. Y.**

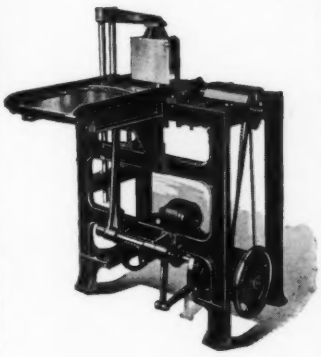
When it comes to performance

—YOU NEED NOT WORRY

if you keep your machines clean and well oiled

Peters Machines are sturdily built to operate for many years and to give uninterrupted production. Like all machines they must be given a little attention however and we suggest you inspect them periodically to prevent unnecessary wear. Where replacement parts are necessary, do not hesitate to order them.

Every existing machine should be kept in operation and we will extend every effort to help you keep yours at top performance if we can be of service to you. Write us if you have any problems and we will give your inquiry prompt attention.



This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 30–40 cartons per minute, requiring one operator. After the cartons are set up, they drop onto the conveyor belt where they are carried to be filled. Can be made adjustable to set up several carton sizes.

This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE closes 30–40 cartons per minute, requiring no operator. After being filled, the cartons enter this machine on conveyor belt as open, filled cartons and leave machine completely closed, ready to be packed for shipment or wrapped. Can also be made adjustable.



With all of its facilities devoted to the manufacture of war equipment, Peters is contributing directly to the war effort.

PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVENUE, CHICAGO, ILL.

A familiar sight in the retail paint store was the shelf display of tins, but now with the more vulnerable glass containers in common use, this may be due for a change. How, only time will tell, but it is certain that dealers will now depend more and more on the protective qualities of cartons for the handling of glass containers in selling and storing.

What has been the reaction of the trade, long accustomed to heavy duty tin and steel containers, to the new glass and wooden packages? It was expected that the change would arouse varying reactions, but on the whole the trade has accepted the change wholeheartedly and in a cooperative spirit. Much of this was due to the manner of handling the situation, which Pabco did by making advance announcement of the change, before the new packages were available. This gave dealers and distributors an opportunity to plan their own adjustments in their display and selling services.

It was early in January, when the package conversion program was in the blueprint stage, that a bulletin fully outlining the change was sent to customers. With this bulletin, signed by Larry Wright, executive of the paint department and paint advertising manager of The Paraffine Companies, Inc., went photographic illustrations of the contemplated containers.

Pressure sensitive tape

(Continued from page 42) Tapes are extensively used to anchor parts of electrical equipment—the ends of spirally wound insulation; coil windings; lead wires to coils; insulating paper between windings; and holding insulation, lamination stacks and varnished cambric on transformer leads. A most important application is holding printed or colored codes on wires and cables as identification and eliminates the procedure of tagging.

With shipping materials so scarce, tape is doing its part pinchhitting. . . . Boxes are strapped together with tape to eliminate shipping cartons.

No matter how strong an article may be, it is bound to have weak spots and pressure-sensitive tapes perform the task of reinforcing vulnerable places. Many types of tape are used for reinforcing packages for shipment.

Although seemingly not so important an application of pressure-sensitive tape as the others, single, double, or triple colored tape can be used for striping and clear even lines are guaranteed. Such use has many applications in display.

In supply depots where many thousands of different containers of foods, explosives, chemicals, drugs, motors, etc., are handled (and usually under trying conditions) rapid identification of speedily needed articles is made possible through the use of colored tape which also performs the sealing operation against moisture, gas, germs and air; whereas on a sea voyage, desert trek or freight car ride, cellulose tape forms an impervious lamination that safeguards against tampering, too. Color can be very helpful on the battlefield. For example, artillery ammunition containers sealed with colored tape assist gunners in loading the right shells at the desired moment. Different colors are used for different types of shells from blank to high explosive. One strip of tape backed with several different colors applied by the manufacturer eliminates the possibility wrong color combinations.

Rolls of paper, no matter how long they may be must come to an end like everything else, and when that end is reached, a strip of strong paper tape is used to splice it to the beginning of a new roll. Production in the paper mill is stopped only long enough to complete this operation, and a strong bond is created that will not tear apart.

The uses for tape mentioned in this article are only suggestive of the prodigious number of applications for this material in a war that literally must be packaged to the four corners of the earth. They are one more demonstration of how the ingenuity of packaging industry has arisen to the tremendous problems with which it is faced.

Credit: Material for this article supplied through the courtesy of Celanese Celluloid Corporation; Industrial Tape Corp.; International Plastic Corporation; Minnesota Mining & Mfg. Co.; Peters Bros. Rubber Co., Inc.

Can paper replace jute bags?

(Continued from page 73) out the bottom of the bag completely. The bags were loaded into two box cars at central Toledo and unloaded from the cars to a barge at Havana Harbor. Loading was accomplished by three dock cranes, raising drafts of 7 bags using rope slings on some and canvas slings on others. The majority of the bags were stowed at the bottom of the 4,500-ton cargo hold against the skin on the ship and against steel girders. Upon arrival in Florida, the bags were unloaded by means of canvas slings and loaded into a large box car. Upon arrival of the bags at Refined Syrups & Sugars, Inc., Yonkers, N. Y., a number of industry members, refiners and sugar men, saw the final delivery. A representative of WPB was present. Bags were taken from the car to the weighing platforms in drafts of 10 on platform trucks. In addition to the weighing of the entire cargo, a number of individual bags were weighed. Where the bags were unbroken no loss of sugar resulted from sifting. By comparison, the average loss of sugar from 325-lb. burlap bags is estimated at 3 to 7 lbs. per bag due to sifting and adherence to the burlap.

After weighing and sampling, the bags were lifted 30 ft. by rope slings in drafts of 10 to the dumping platform. No breakage was reported from this strenuous operation.

Net results showed only less than $1^1/_2$ per cent loss of sugar for the entire shipment. All losses were from broken bags and the consensus of opinion of stevedores, the bag manufacturer, and sugar industry representatives was that most of this could be avoided in commercial practice.

Consequently, the bag shape has been changed to make it shorter and wide for easier handling, with pockets (gussets) rather than ears. Breaks at the sewing line will be eliminated by familiarity of operators with the bag-sewing technique. Further improvements have been made in the weatherproofing of the bags. Knowledge of how to handle the bags, using no hooks during shipment, will also improve their performance.

In addition to tests under actual shipping conditions, the bags have been subjected to drop tests in which they have been tumbled from 25-ft. piles without breakage or seepage. They have been sprayed with a hose for 20 minutes and the water did not go beyond the first ply. The bags have been sampled to obtain raw sugar tests and patched with tape. These patches have made the bag as strong where it is repaired as it was originally.

It was the opinion of all parties interested that these paper bags could be substituted for jute successfully with little change in present packing and handling methods. The waterproof qualities of the paper sack should also have the advantage of allowing shipment in open cars and storage in the open—an important factor if crops are large and warehouse space is limited.

Credit: Bags developed by Union Bag & Paper Corp., New York.

In These Trying Days of "SHORTAGE of HANDS"



The Beck Sheeter

will release hands for other work, because thru its great simplicity, it needs very little of the operators' attention, once it is set. Especially when equipped with **ELECTRIC EYE CONTROL** are you freed from human element in your sheeting work. Amazing degrees of accuracy in "spot sheeting" work, plus profitably increased outputs. The need for doing your own sheeting is probably more acute now than ever before in your business history, and this because of present conditions.

CHARLES BECK MACHINE CO.

13th & Callowhill Streets Philadelphia, Pa.

SPECIALISTS

in the manufacture of

CAN & BOTTLE CLOSURES











LET us quote you on your requirements. Hundreds of dies and molds available for Essential Oil Cans, Sprinkler Tops, Screw Caps, Aluminum Capped Corks, Lead and Tin Coated Spouts, Metal Specialties. 80 years' experience in meeting the needs of packagers. Call upon us for aid.

CONSOLIDATED FRUIT JAR COMPANY

NEW BRUNSWICK • NEW JERSEY

ALL THIS { EYE-APPEAL, LIGHT-WEIGHT, COLOR VARIETY, PRODUCT PROTECTION, MERCHANDISING } AND SAVINGS, TOO



WITH LUSTEROID VIALS AND TUBES

In planning for your post-war packaging, it will pay you to look into the many advantages of LUSTEROID containers.

This modern plastic is made to order for packaging that merchandises as well as protects.

It's transparent—ideal for product display. It's light in weight, yet tough enough to give your product the protection it requires. It's colorful—made in all hues of the rainbow, either clear or opaque.

On top of all this, LUSTEROID saves work, time and money. No protective partitioning or special packing needed. No labels to affix—the label is reproduced in color as an integral part of the container. Light weight saves shipping costs, too.

LUSTEROID vials and tubes come with cork, slip-on and screw-cap closures in standard diameters from ¼" to 1¼", and lengths up to 6".

Write for the complete story today.

Lusteroid Container co., inc.

FORMERLY LUSTEROID DIVISION OF SILLCOCKS-MILLER COMPANY

OFFICE AND FACTORY
10 PARKER AVENUE, WEST
MAPLEWOOD, N. J.

MAILING ADDRESS:
SOUTH ORANGE, N. J.

"STUCK"



with a
SUBSTITUTE ?

Are you one of the many manufacturers who has been forced to change your basic packaging material, to convert to some new and (as far as you're concerned) untried package?

Then you've probably inherited a new set of adhesive problems, as well. You'll be wanting new types of adhesives to make your new package as sound and long-lived as your old.

We have developed a number of new adhesives, in addition to the more than 700 formulas in our research files, to meet these new demands. If you will write us your problem, we will be glad to send samples.



Established 1866
Union Paste Company
1605 HYDE PARK AVENUE • HYDE PARK, MASS.

Lining and laminants

(*Continued from page 78*) only the metal container but also a great many of the materials and compounds formerly used in the manufacture of fibre containers. Such standbys as waxes, animal glues and asphalt are increasingly hard to obtain.

This problem has called for a great deal of research on the part of fibre container manufacturers, manufacturers of protective coatings and other allied interests, together with the fact that manufacturers in other lines of business are turning to fibre containers in the hope that they will be able to solve their packaging difficulties.

Each product brings up a specific problem. For example, a good percentage of milk today is packaged in fibre containers that have been dipped in waxy solutions which have been developed for milk only. Confections, such as cookies, formerly packaged in tins, are now packaged in cylindrical fibre containers.

The laminants in these containers must accomplish the following things: They must be non-toxic, have no odor which will be transmitted to the food and they must be moisture-vapor-proof in order to preserve the freshness of the food. A special laminant has been developed to make the all-fibre container remarkably efficient as a substitute for the former container made of metal.

Sealing compounds

Sealers must be water-proof, moisture-vapor-proof and have high adhesive qualities. In some cases, sealers must be greaseproof, odorless and tasteless. These specifications depend on the type of material packaged, as well as the ultimate use.

Some fibre containers are sealed with the regular laminant used in the manufacture of the container, such as a water-soluble sealer like silicate of soda, for ordinary uses. A resinous adhesive is used for containers that are to be water-proof and moisture-vapor-proof. After this is done, the ends of the container may be dipped in a mixture of rosin and wax. On the open end of the container a sealing disc is used to insure complete closure. This disc is usually made of kraft paper, impregnated with wax.

Listed below are some of the adhesive and protective materials used in the manufacture of fibre containers:

Laminants and adhesives

Water-Soluble
- Silicates
- Vegetable glues
- Animal glues

Water-Insoluble
- Waxes
- Asphalts
- Lacquers—solvent and emulsion types
- Resins—solvent and emulsion types

Chemically Resistant
- Resins

Linings

Chemicals (Solvent and Emulsion Types)
- Vinylite
- Phenol formaldehyde
- Oleoresinous varnishes
- Lacquers
- Silicates

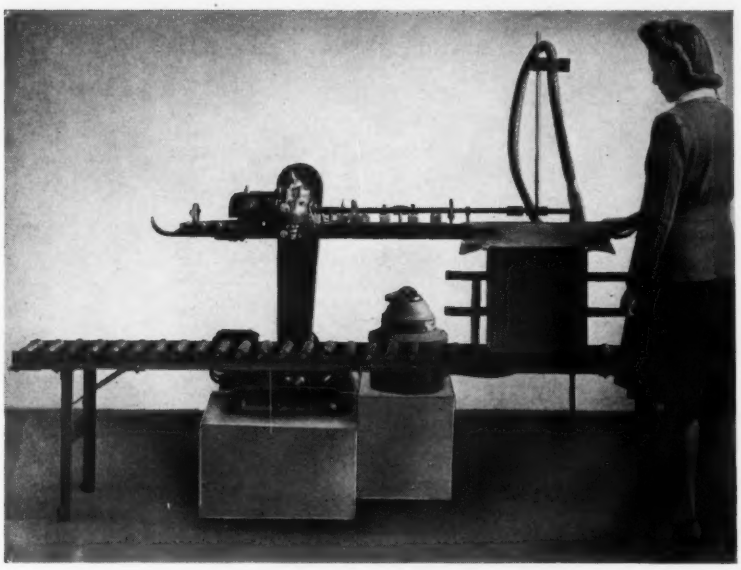
(*Continued on page 110*)

Changing from cans to bags solved . . . .

PACKAGE DEHYDRATED FOODS

on the

AMSCO Bag Packaging Unit



From the time bag is opened; filled; closed; *excess air removed;* and sealed, operation is simple, quick and efficient.

All operations are on gravity or roller principle (no lifting), assuring minimum fatigue of operator.

Complete installation designed to insure *economical handling* and *perfect packages.*

Amsco Bag Packaging Unit consists of Amsco Rotary Sealer, Model CL-2D, Roller Conveyor, Vacuum Unit, and Reynolds Loader (not pictured).

For further information, write, wire or phone.

AMSCO PACKAGING MACHINERY, INC.
31-31 Forty-Eighth Ave., Long Island City, N. Y.
Stillwell 4-4840



TO WIN THE WAR

After sixty years of close contact with paper converters throughout the world, we now find ourselves engaged in an all-out production of essential equipment for the war program.

The army and the navy now have first call on our men and machines and we are unable to accept orders for machines, or parts used in our machines now operating unless the War Production Board deems the same necessary for promoting the war effort.

We want to keep in touch with all of you. We want to help you keep up the flow of essentials from mills and converting plants. If we can advise you, do not hesitate to call on us. If you need machines or parts which the War Board will pass favorably upon, we will try to serve you. We wish, however, to advise that army and navy requirements will come first until no longer needed.

HUDSON-SHARP
MACHINE CO • GREEN BAY • WIS

★ ★

X=your problem



SHIPPERS, JOBBERS MANUFACTURERS

Send your sealing, packing or shipping "X's" to us

If there is a practical solution which can be met by means of adhesives, coatings, laminating or combining paper, cloth, or other materials, we'll go after the answer for you.

Already in the interests of Essential War Industries, and others, we have developed such *new materials* as:

Water-resistant Gummed Sealing Tapes,
Luminous Papers, and many others.

Your Inquiry is Invited

MID-STATES GUMMED PAPER CO.

Manufacturers of Green Core Paper and Cloth Gummed Tapes, Mid-States *Really Flat* Gummed Papers, Green Core Stay Papers, and Green Core Gummed Hollands and Gummed Cambrics.

2515 SOUTH DAMEN AVE. • CHICAGO, ILL.

It Will Pay You to Make

PARAMOUNT

Your War-Time Headquarters for

PROTECTIVE PACKAGING



TWO ways in which the war has affected protective packaging are scarcity of basic materials and demand for protection of many *new* products, particularly in the industrial field.

On both counts, PARAMOUNT is prepared to meet every need . . . in the first case, through the use of suitable substitute materials; in the second, by keeping constantly alert to new industrial and other war-created requirements.

You will unquestionably save time and money by bringing your packaging problems to PARAMOUNT, *first!* We will be ready to supply bags of any size, designed to guard *every kind of product*, from bread to bomb-parts, *against every deteriorating or contaminating agent*, from moisture to mustard gas.

Send us your inquiries, and let us demonstrate the advantages of PARAMOUNT service . . . *efficiency, cooperation, economy.*

PARAMOUNT PAPER PRODUCTS CO., INC.
1603 GLENWOOD AVENUE, PHILADELPHIA, PA.

Thermoplastics (Hot Metals)
- Waxes
- Paraffins
- Resins

Fabricated Materials
- Vegetable parchments
- Greaseproof papers
- Metal foils
- Cellophane
- Pliofilm
- Cellulose acetate
- Ethyl cellulose
- Glassine

Sealers
- Miscellaneous cements
- Rubber compounds
- Asphalt cements
- Resinous cements
- Pyroxylin cements

Do standards stifle—

(Continued from page 39) national unification led in 1926 to the establishment of the International Standards Association, or ISA, with headquarters in Switzerland and a membership consisting of most of the important national standardizing bodies. Its purpose is to establish international uniformity between industrial standards in all cases where this appears to be desirable and practicable. Until the present war broke out, about fifty ISA technical committees had been formed and about thirty ISA bulletins making recommendations for international unification of industrial standards have been published. Among those, only two will be mentioned here: the adoption of the industrial ratio 25.4 between the inch and the millimeter, a matter of fundamental importance to dimensional accuracy in manufacturing all over the world, and the series of Preferred Numbers, an invaluable tool in the hands of the standardizer.

Under the present war conditions, where general international cooperation is impossible, the ISA has become temporarily inactive. However, it is to be expected that when the war is over, the winning of the peace will depend largely on the establishment of a sound economic world structure in which international standards will play a major part.

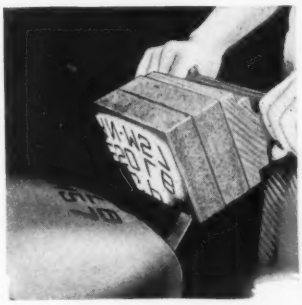
Dehydration to prevent

(Continued from page 72) field of dehydrated packaging has grown and, while it is being used now primarily for military purposes, the time will come after the war is over when this wartime development by the armed services will be the only method for shipment of articles which may be harmed by moisture. Most rapid transit and transportation after the war has been won will be by plane and this time and labor saving method will fit into the new picture as readily as did the newly developed airplane after World War I.

Credit: Information and photos supplied by The Davison Chemical Corp., Baltimore, Md.; The Goodyear Tire and Rubber Co. Akron, Ohio; Shellmar Products Co., Mount Vernon, Ohio; Celanese Celluloid Corp., New York City.

A SUPER AIR-FLOATED STAMP for MARKING IRREGULAR SURFACES

Such as BOMBS TORPEDOES, BUCKETS, DRUMS, FRAGILE CARTONS



First produced as a stamp for marking bomb noses—the super stamp has proved equally practical in marking all sorts of cylindrical or irregularly shaped surfaces.

The air-floated construction enables the operator to work on all surfaces causing no damage to even the most fragile container.



Offered in two styles. Regular grip—illustrated above—has steel gauge which locates the imprint. Hammer grip—below—for quicker impressions where accurate imprint is not required.

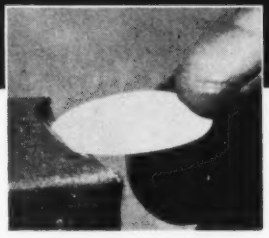
Speed and simple operation make this new stamp the answer to many marking problems. Unskilled operators can make impressions at the rate of 600 to 1000 per hour.

An ordinary stamp pad and special air-drying ammunition ink complete the set up. Write Dept. G.

LOUIS MELIND COMPANY
362 W. Chicago Ave., Chicago, Illinois
Manufacturers of the Most Complete Line of Inks in America

Trouble applying small labels?

Could anything be simpler than this?





Kum-Kleen labels are automatically and individually dispensed from their container. You pick off and apply—no moisture is required. Eliminates inefficient, wet, sticky fingers—speeds labeling 300%. Permanently adheres to glass, cellophane, plastic, wood, metal, paper, etc., with slight finger-tip pressure. Write today to Avery Adhesives, Dept. MP-3, 451 E. Third St., Los Angeles.

In Canada, Enterprise Sales & Distributors, Toronto.



The makers of Johnson's Wax announce...



...for shipping and packaging cartons of paper and fibreboard

Many manufacturers now package in paper containers instead of metal — fibre instead of wood.

To help them, S. C. Johnson & Son announce new, protective WATERPROOFING CARTON WAXES ...four of them... each specially developed for use with paper and fibre cartons.

These WATERPROOFING WAXES FOR CARTONS REPRESENT A NEW METHOD OF PACKAGING! No superficial coating, but a substantial blanket, a REAL impregnation and sealing with wax that guards against wear and resists water. These waxes *completely* cover containers and cartons. The penetration and adhesion is deep and lasting.

Who uses them?

Ordnance plants, to pack small arms ammunition...

Food packaging plants, for sealing "Field Ration Kits" for overseas shipments...

Manufacturers of metal parts, to give a lasting, wear-resistant seal to cartons and crepe paper pads used for packing...

Meat packers, shell container manufacturers, dehydrated food manufacturers (dried egg cartons, etc.), surgical instrument makers, etc.

A word about physical characteristics. Johnson's Waterproofing Waxes for Cartons are available in a range of melting points. Flexibility is ideal. Adhesion and penetration are excellent.

Write for complete details.

S. C. JOHNSON & SON, Inc.

Dept. MP-33, Industrial Wax Division, Racine, Wis.

Buy United States War Savings Bonds and Stamps



SEALING problems disappear when a CAPEM screw capping machine goes on the line. CAPEM delivers a tight, leakproof seal with all styles of metal and plastic caps as well as caps of certain acceptable substitute materials. This capper seals bottles, jars or cans of any size or shape at speeds ranging from 2000 to 7500 per hour. Fully automatic, it saves from 2 to 4 operators.

Enlarged facilities enable us to produce more than ever before. Right now all of this equipment is devoted to the war effort. When this crisis is over, however, we hope to utilize these enlarged facilities to build new types of packaging equipment in addition to the standard line of Consolidated packaging machinery.

To this end, we welcome suggestions from users of packaging machinery as to new types of equipment which might help to solve their post-war packaging problems. Such an interchange of ideas will benefit all users of packaging equipment by helping them to plan NOW on ways to meet post-war needs.

CONSOLIDATED
PACKAGING MACHINERY CORP.
1400 WEST AVENUE • BUFFALO, N. Y.

Plants and people

(*Continued from page 94*) also been instrumental in disseminating information regarding proper nutrition for war workers based on recipes worked out for British war workers.

L. R. Root, chairman of the convention committee of the Toilet Goods Assn., Inc., has appointed the following members of the raw material and supply industries to serve with him on that committee: A. C. Burgund, Carr-Lowrey Glass Co.; Charles Fischbeck, P. R. Dreyer, Inc.; P. E. Haebler, Goldschmidt Chemical Corp.; W. E. Klaas, Brass Goods Mfg. Co.; M. Lemmermeyer, Aromatic Products, Inc.; M. F. Martin, U. S. Industrial Alcohol Co.; W. P. Murray, Continental Can Co.; Karl Voss, Karl Voss Corp.; J Blaine Walker, Hazel-Atlas Glass Co. The Convention will be held at the Waldorf-Astoria, New York, May 12-13.



Paul Meelfeld

Paul Meelfeld has just been named manager of advertising and sales promotion activities for The Hinde & Dauch Paper Co., Sandusky, Ohio. Mr. Meelfeld will direct the development of new corrugated board packaging applications for war goods.

Virginia van Gessel has taken over the duties of her husband as West Coast representative of Einson-Freeman Co., Inc. Lt. Ted van Gessel is now with the U. S. Army.

James L. Rodgers, president of the Plaskon Corp., has been elected president of the Plastics Materials Mfrs. Assn. William Theile, president of Catalin Corp., was elected vice-president; James Walker, reappointed secretary-treasurer.

Col. J. W. Viner has been elected vice-president of International Printing Ink Division of Interchemical Corp., as manager of sales of all Specialty Products.

Lt. T. C. Sheffield, formerly western manager New England Collapsible Tube Co., has been appointed aide-de-camp to Brig. Gen. Arnold Krogstad, 5th District U. S. Air Force, Technical Training Command.

OBITUARY

J. Frederick Hartlieb, president of Continental Can Co., Inc., died at New York Hospital during January after a month's illness. He joined Continental Can Co. as assistant to the president in 1927, became vice-president in 1928 and through a series of promotions became president of the company in 1940.



J. M. Hothersall

John McDonald Hothersall, inventor and holder of 400 patents in the container industry, died at his home in Brooklyn, N. Y., after an illness of several months. Mr. Hothersall, one of the pioneers in the modern phase of the canning industry, was associated with the American Can Co. since its organization in 1901. He helped further the development of the square fibre milk container, the 5-gal. paint pail, the beer can, the quick and easy can opener and a great many of the improvements that the modern housewife now takes for granted as a part of her household needs.

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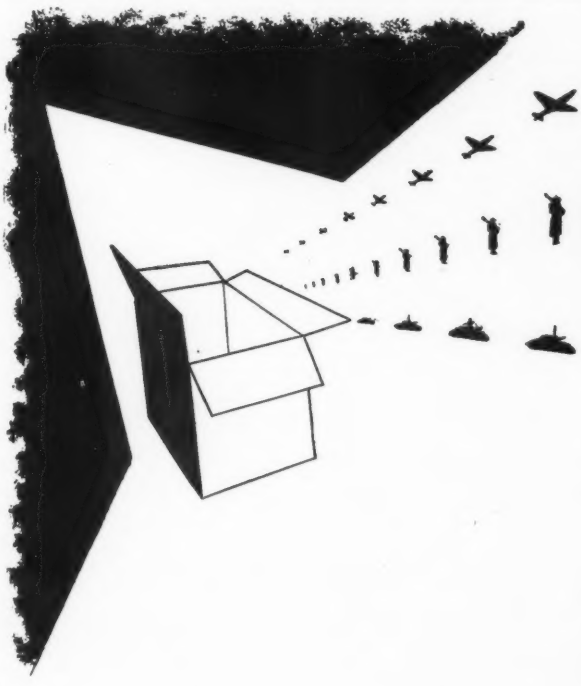
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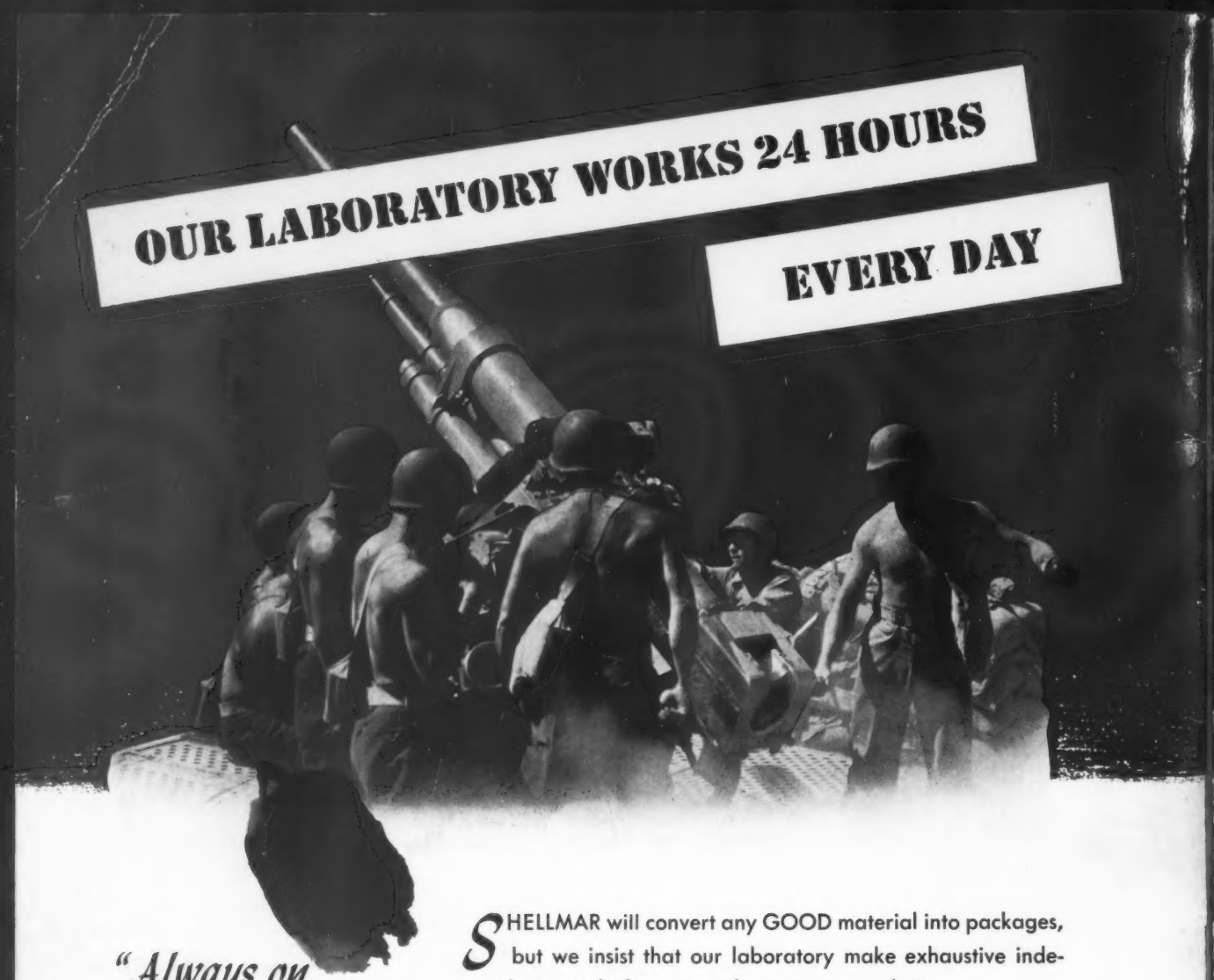


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